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THE

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MEDICAL REVIEW

OR

QUARTERLY JOURNAL

OF

PRACTICAL MEDICINE AND SURGERY

BOTHECA·BODLEIANA

EDITED BY

JOHN FORBES M.D. F.R.S.

AND

JOHN CONOLLY M.D.

EDITORS OF THE CYCLOPÆDIA OF PRACTICAL MEDICINE

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FRANCISCI BENE, Med. Doct., Consiliarii Regii, Professoris P. O. Therapiæ Specialis ac Praxis Medicæ, et Senioris Facultatis Medicæ in Regia Scientiarum Universitate Hungarica, ELEMENTA MEDICINÆ PRACTICÆ. *E Prælectionibus illius publicis Edita per* FRANCISCUM BENE, Jun. M.D. T^{i}. 5.—8vo. *Pestini*, 1833, 1834. Adolphi Hartleben.

Elements of Practical Medicine, by FRANCISCUS BENE, M.D. &c. &c., Professor in the Royal Hungarian University of Sciences, &c. *Edited from his public Lectures, by* FRANCISCUS BENE, Jun. M.D. Five vols.—8vo.

THIS work is the substance of Lectures on the Practice of Medicine, delivered by the Professor in the University at Pest, who, as we are informed in the preface, has held his office seventeen years, and given systematic and clinical lectures regularly, but has been too much occupied in practice to undertake their publication. They are published from the notes taken by his son; and, we may presume, at least in their general outlines, submitted to his correction. We have examined it with some care, as an interesting evidence of the state of the science and practice of medicine in the Austrian dominions; a part of Europe which is generally regarded as one of the least enlightened, but in which every encouragement is given to the acquisition of scientific knowledge, and in which the plan of medical education, in particular, is regarded by some as a model for the imitation of other countries.

We must confess that we have been considerably disappointed in examining the contents of the work, as an indication of the general principles on which the science is taught; and, after we have given some account of the work, we think our readers will agree with us in opinion, that, although quite sufficiently indicative of learning, industry, and much useful professional knowledge, and of a conscientious desire to communicate useful instruction, it is yet considerably deficient in the simplicity and precision, and even, in some points, in the specific information, which are desirable in such a publication at the present day.

That such deficiencies should be found in the medical instruction of a country where, as we have understood, scientific education is made an object of primary importance by the government, is a fact to which we think it of some consequence, in these days of projected reforms in our medical schools and institutions, to direct the attention of our readers: not because we doubt that great benefit may result from judicious reforms, nor because we dissent from the opinion, (now, we believe, pretty general in the profession,) that the regulation of such matters deserves more attention than it has yet received from the government of this country; but because we think it important that all who take an interest in the subject should be aware, that, by merely increasing the amount of learning, and by varied scientific acquirements, included in the compulsory education of medical practitioners, we cannot by any means ensure increased accuracy, or extent of information, or sounder judgment, in the apprehension or application of those medical facts and principles with which the interest of the public demands that they should be most intimately acquainted. The proper education of a medical man requires, in fact, the exercise not merely of those faculties by which facts are observed and knowledge is acquired, but especially of those by which these facts are weighed and compared, a right judgment formed of their comparative value and importance, and the right inferences deduced from them. We believe it to be certain that, in some schools of medicine, the former class of the human faculties have been cultivated to a certain degree at the expense of the latter; otherwise, we do not see how it could have happened that the schools of France, Germany, and Italy, in which, certainly, a much greater amount of scientific knowledge, connected with medicine, has been required of the students, than most British licentiates, or even graduates, possess, should nevertheless have failed in producing a body of practitioners more deserving, or equally deserving, of the confidence of their fellow-citizens, in the ordinary exercise of their profession.

This work commences by a preliminary dissertation (Prolegomena), consisting of two parts: the first, a brief history of medical literature, from the earliest times; the second, a manual of general instructions for the examination of patients, and the other duties of a practitioner.

The first of these sections seems to be hardly more than an index to Lectures delivered on the subject, with lists of the authors regarded as most characteristic of the different eras in the progress of medicine, but little attempt to discriminate their respective contributions to the science. On this part of the work we shall only remark, as evidence of the defective information in regard to British medical writings, that, although his notice of French systematic authors comes down to Andral and Cruveilhier, and that of English to Mason Good and Mackintosh, although he is somewhat particular as to periodical medical literature, and notices various British works on special subjects, yet we find no mention of Young, of Parry, of Wilson Philip, of Armstrong, of Brodie, Travers, Marshall Hall, or Bright, in London; none of Hamilton, Thomson, Abercrombie, or Alison, in Edinburgh; of the Burns's, in Glasgow; or of any one of the physicians or surgeons of Dublin: none of the Transactions of the College of Physicians, the Medico-Chirurgical Society in London, nor of the Dublin Transactions or Hospital Reports; and, although due notice is taken of the Lancet and Medical Gazette, Dr. Johnson's Medico-Chirurgical Review is passed over *sub silentio*. It is true that many of these authors are named as authorities on special subjects, in the subsequent parts of the work; but several of them, at least, would surely have appeared, to one well acquainted with their writings, equally entitled to notice in a general review of the progress of the science, as Brown, Beddoes, or Trotters, or even as Abernethy, Wardrop, or Lawrence, whose names are here introduced.

The second part of this preliminary dissertation, termed "Occupatio Medici ad lectos Ægrorum," is perhaps of more value: it contains general rules for the guidance of young practitioners; then a full enumeration of the chief symptoms to be looked for, as indicating derangement, first in the function of digestion, and all the functions of parts contained in the abdomen and pelvis; next in the thoracic viscera and the circulation; and, lastly, in the organs of sense and the nervous system. Then comes a general statement of the causes of disease, predisponent and exciting, hereditary constitution, age, sex, temperament, climate and locality, diet, habits, occupations, atmospheric changes, contagions, diarrhœa, poisons, injuries, mental exertions, &c.; all which demand attention, even on the first examination of patients;—and then general advice as to the manner of combining and reflecting on the information thus obtained, so as to form a judgment of the prognosis and of the treatment suited to the case.

All these are subjects to which it is of real importance to direct the attention of students, even in the outset of a course of practical instruction; but it is equally obvious that they must be as yet unprepared either to understand or profit by any minute detail of symptoms, and, therefore, that a prudent discrimination is very necessary in placing these topics before them; the enumeration of particulars should not be too ample and minute, and pains should be taken to classify the symptoms enumerated, and distinguish those which are of prominent and essential importance from those which are of a secondary or accidental character. This is hardly attempted in the present instance: even the broad line of distinction drawn by several previous authors, in such a general enumeration of symptoms, between those which are taken from deranged functions or altered external appearances, of which the practitioner can judge for himself,—and those which consist in uneasy sensations, of which he must be informed by the patient, (although, in subsequent parts of the work, e. g. in t. v. § 12, the author shows his sense of its value,) is here neglected; and it is hardly necessary to say, that it is one easily explained, even to young students, and of great importance to young practitioners, particularly in the investigation of nervous, hysterical, or hypochondriacal complaints.

Besides, in this section we observe several omissions, of such a nature as to shew that the author could not have been aware of the real importance of the symptoms in question. For example: although there is a whole paragraph (§ 33,) on symptoms in the condition of the urine, we find no mention made either of the means of detecting albumen in it, or of the importance of taking its specific gravity. Although percussion on the abdomen is mentioned, (§ 36,) it seems to be merely with the view of distinguishing fluid effusion from tympanitis: there is no hint of the importance of the dull sound on percussion, as indicating solid enlargements of viscera. The immediate objects of percussion of the thorax and auscultation are very imperfectly stated in § 39; and, although no less than twenty-five different characters are enumerated in § 38, as demanding attention in the examination of the pulse, there is no mention of the simple and frequently decisive observations which may be made, either on the exact position of the apex of the heart, or on the nature of the pulsation in the subclavian arteries.

The general arrangement of the subjects treated in each of the separate chapters is distinct and uniform; and, although the continual repetition of the indications of cure,—first, the removal of exciting causes; then the correction of the "character dynamico-organicus" of the disease, whether sthenic or asthenic, &c.—is somewhat tiresome; yet the necessity of attention to points of real practical importance, and of varying the treatment according to the condition of the patient, as well as the name and nosological position of the disease, is always kept steadily in view. The authors, on whom reliance is chiefly placed for the facts stated in each chapter, are regularly enumerated.

After the preliminary dissertation, the author proceeds to lay down his "Doctrina de Febribus," which he arranges in the following manner. First, we have a chapter entitled "Febris in genere," containing a description of the characters of the febrile paroxysm, whether idiopathic or symptomatic, and of its external causes, (where, by the way, we have exposure to heat or cold, to malaria or contagion, all put together under one head, and *seven* other general causes enumerated, we apprehend, very needlessly); then we have an outline of the grounds of distinction among fevers, as idiopathic or symptomatic, remitting or continued, sthenic or asthenic, simple or complex; of the modes of their terminations, of the general signs of these terminations, guiding the prognosis, and even of the general indications of treatment, and especially of the antiphlogistic regimen, and the modifications it requires in the progress of febrile disease.

We have then, in three distinct sections, a full discussion of the history and treatment of what are called the *first* order of fevers, "Febres Continuæ Cardinales," viz. "cum charactere inflammatorio," "septico," and "nervoso." In the two latter we have a very accurate description of the usual forms and chief varieties of typhoid fever; and we would notice, in particular, the distinction drawn in the last section between the "Febris nervosa cum erethismo" and the "Febris nervosa cum torpore," as a decided improvement on the French mode of classing these varieties together, under the head of "Fièvre Ataxique."

But, after a full and formal discussion of these cardinal fevers, we are next informed that these are of very rare occurrence, unless when combined with other morbid conditions; and then we are immediately presented with histories and descriptions, drawn up in the same formal style, of the Febris gastrica, of which four distinct forms are given; the saburralis, the biliosa, the mucosa, and verminosa; then of the Febris catarrhalis and Febris rheumatica. These constitute his *second* order, the "Febres Continuæ Compositæ;" and then we have the *third*, the "Febres Continuæ Contagiosæ," comprising the Typhus Contagiosus Europæus, the Pestis Orientalis, and the Febris Flara Americana;—and, after all these, we have the *fourth* order of fevers, the "Febris Intermittens;" comprehending Remittent Fevers, such as are described by Torti.

It is to be observed, that under several of these heads, (particularly the Febris gastrica biliosa, § 116, and mucosa, § 123, catarrhalis, § 135, and rheumatica, § 150,) fevers are enumerated which take the distinctly typhoid type; but it will be easily understood that the cases, under each of these heads, which have the inflammatory form of fever, are not to be distinguished from what we usually call inflammatory diseases,—the Phlegmasiæ and Profluvia of Cullen,—Hepatitis, Enteritis, (especially the Enteritis erythematica of that author,) Catarrh, or Bronchitis, Dysentery, and acute Rheumatism.

On the theory of fever, Professor Bene is laudably brief; but he expresses, we think, too decidedly his opinion, that its external causes act primarily on the nervous system, and only through its intervention excite changes in the vascular system and in the blood. These changes in the state of the circulation, though often excessive and injurious, he thinks an essential part of the process, by which the original deleterious impression on the nervous system is removed; and, conformably with these principles, he regards critical evacuations as the sign, not the cause, of the abatement of fevers. (See § 71.)

tion that "in partibus internis deteguntur varia quæ indicant inflammationem prægressam in cavo faucium, trachea, bronchiis, pulmonibus, ventriculo, tubo intestinali, vel aliis visceribus cavi abdominis;"* (§ 163;) several of which statements, we are confident, could not have been made in this unqualified manner if the author had been at pains, first, to distinguish strictly morbid from pseudo-morbid appearances; and, secondly, to distinguish the symptoms of what he calls nervous fever and contagious typhus from those of encephalitis and other inflammatory diseases, treated in another volume.

We must observe, to the credit of our author, that he seems to have carefully studied the grand external causes of these febrile diseases, and the circumstances in which they chiefly operate, and gives judicious directions as to prophylaxis. His general conclusion as to yellow fever, that it is generally endemic, and produced by a poison generated on the earth's surface, and occasionally in ships, by the heat of the tropical sun, and then diffused through the atmosphere; but that, in certain circumstances, it becomes also contagious, and spreads, within certain limits, like the typhus of Europe; is, we apprehend, the safest and most probable which can be drawn from the facts hitherto known.

Having thus disposed of the first great class of diseases, viz. fevers, the author proceeds to treat of his second great class, Inflammations, first in general terms, and then as occurring in the head and organs of sense, in the organs of respiration and circulation,—in those of mastication and deglutition, of digestion and chylification,—of urine and generation; thus forming five distinct orders of inflammatory diseases, in each of which are included several genera.

In the introductory chapter on inflammation in general, the author judiciously observes, that we must characterize this diseased state, not merely by pain, swelling, heat, redness, and altered function, but especially by the tendency to certain organic changes, both of the fluids and solid texture of the part affected. He briefly but distinctly enumerates in this chapter the causes, varieties, effects, and terminations of inflammation; and not only the general plan of treatment, but many individual remedies, both for the inflamed state and its consequences. In enumerating the causes, (§ 205,) he falls into the error, too common in systematic writers, of under-rating the efficacy of debility as a predisponent cause of inflammation, and representing the inflammatory state as *most easily produced* at that period of life, and in that habit of body, in which there is the greatest bodily vigour, and in which, therefore, *when produced, its symptoms are most striking;* a statement which, we apprehend, is nearly the reverse of the truth.

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* "— in the internal parts are found various appearances, which indicate inflammation of the cavity of the fauces, the trachea, the bronchi, the lungs, the stomach, the intestinal tube, or other viscera of the abdomen."

Under the general denomination of Consequences, or, as he terms it, "Exitus Inflammationis," he introduces three long sections, on hydrops, infarctus and obstructio, and scirrhus and cancer; subjects afterwards more fully discussed. We think he is right in taking this method of connecting the general doctrine of inflammation with the most formidable organic diseases, immediately dependent on increased exhalation or perverted nutrition; but his more specific statements on this important part of pathology are by no means precise or satisfactory. He does not state, as we think he might safely have done, that, in order that inflammation may excite any extent of dropsy, it must, in almost every case, be combined either with organic disease impeding the venous circulation, or with obstruction to some of the natural excretions, (generally by the skin or kidneys;) nor does he lay any stress on the *tubercular diathesis*, as the main cause of "infarctus et obstructio post inflammationem," at least in young persons. His enumeration of the causes disposing to such an effect from inflammation, (§ 244,) is a good example of the indiscriminate and careless manner in which alleged causes of disease, internal and external, general and particular, important and trifling, certain and doubtful, are huddled together by many such writers. He says:

> "Alimenta ac potulenta peccantia, ingesta acria irritantia, potus coffeæ fortioris, et valde dilutus sed nimia quantitate sumptus, emetica, purgantia, astringentia, venena, aër corruptus, humidus, vita sedentaria, animi affectus ingrati, morbi diversi præter inflammationes, febris intermittentes, *scrofulæ*, syphilis, arthritis, infarctus et obstructiones excitant."*

Perhaps the most instructive part of this discussion is the confidence with which he speaks (like many other continental physicians,) of the efficacy of the different mineral waters and baths, in many cases where there are strong grounds for thinking that organic alterations of texture must have commenced.

We observe, with satisfaction, that, in delivering the history and treatment of the more important inflammatory diseases,—those in which art is more effectual, and error or ignorance more dangerous than any others,—Professor Bene hardly deviates from the course which we consider in this country to be sanctioned by reason and experience. If he is less liberal of bloodletting than those of us who are accustomed to practise on strong and healthy subjects in general are, we must remember that, in the natives of the southern parts of Europe, the effects of the loss of blood appear, from other representations, to be generally greater than with us. There is more ground, we think, for regretting that he is not at sufficient pains to point out the circumstances which demand and justify, and those which contraindicate or forbid, the further loss of blood, in the progress of the different inflammatory diseases; and to avail himself in this important enquiry, as he might have done, of the recent improvements in the diagnosis of thoracic diseases. Nor does he make any mention of the important practical observations of Marshall Hall, Armstrong, Travers, and others, on reaction after loss of blood, and the fallacies thence arising; although the frequent statement made of the "character erethisticus" of febrile disease, and the necessity of caution in evacuations when that state of nervous irritation is well marked, shews that the condition described by these authors had not escaped the author's attention.

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* "Improper food and drink, irritating acrid ingesta, strong coffee, or weak coffee taken in too great quantity, purgatives, astringents, poisons, bad and moist air, a sedentary life, disagreeable passions of the mind, different diseases, besides inflammations, intermittent fevers, *scrofula*, syphilis, arthritis, produce infarctions and obstructions."

Another important objection to the chapters on inflammation of the head and chest is, that he ascribes too confidently to inflammation several diseases of those parts, often connected with a degree of inflammatory action in the first instance, we believe, but not uniformly or necessarily dependent on it, even in their origin; and certainly differing from it widely in their progress, and often in their most proper treatment. Thus, he sets down delirium tremens (hardly known to him, however, by observation,) as a variety of Encephalitis, (t. ii. § 4): he considers hydatids in the choroid plexus, and all varieties of organic disease within the cranium, as effects of inflammation, (§ 5;) he gives a similar opinion, not only of tubercles, but of hydatids, osseous, cancerous, and melanotic tumours in the pleura or lungs, (§ 54;) he seems to suppose vomica of the lungs, without previous tubercles, to be much more frequent than it really is; and, perhaps, a more important error is supposing the emphysema of the lungs to be an effect of peripneumony, whereas we believe it to be certain that this lesion results from bronchitis only; and rarely, as we apprehend, from that, unless combined with occasional spasmodic constriction of the bronchi, as in asthma or pertussis.

We must observe, also, that, in treating of carditis, he lays too much stress on pain and irregularity of pulse, as marking the disease; and says nothing of the dull sound on percussion, and the tenderness at the epigastrium, which in many cases are important aids in the diagnosis.* In this and other cases he does not seem duly aware of the difference of result to be expected from inflammation in different textures; nor does he seem to have clearly perceived the manner in which either dilatation or hypertrophy of the heart supervenes on the effects of inflammation, either of the pericardium or inner membrane.

We are not surprised, after the opinions already noticed, to find scirrhous indurations at the pylorus, or in the intestines, treated as effects of gastritis and enteritis, (§ 90 and 97;) but we should hardly have expected to find ulcers of the mucous membrane of the stomach and bowels described as the sequelæ of abscesses, which have burst and discharged their pus: and, although the author seems well aware of the fact that inflammation most generally affects, in the same subject, only one of the membranes of the alimentary canal, yet he does not appear to have clear ideas as to the peculiarity of symptoms by which the inflammation affecting either the one or the other may, in most instances, be distinguished. (See § 95.) Neither does he appear to have reflected on the peculiarity of the rapidly fatal termination in many or most cases of enteritis, where no considerable disorganization is effected, and no organ immediately necessary to life is injured; nor to be aware of the observations of Armstrong, and other British practitioners, on the advantage which may be derived from full doses of opium in the treatment of enteritis.

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* The sign of the bruit de soufflet, or bellows-sound, is of too recent date to be noticed by our author. We think it, however, proper to enumerate it in this place, as among the important omissions in the list of signs of pericarditis.

In describing inflammation of the liver, he seems hardly aware of the great obscurity of the disease in many cases, where the peritoneal coat is unaffected; and takes no notice of its frequent combination with mucous diarrhœa or dysentery, even in this climate, and still more within the tropics.

He attributes probably too many of the organic lesions of the kidneys to inflammation, acute or chronic; but, in stating the consequences to be apprehended from their chronic induration, he again omits to mention the characteristic appearance of the albuminous urine, of low specific gravity.

He describes the puerperal peritonitis and epidemic puerperal fever, and the gradual transition of the one into the other, fully and carefully, and enumerates, we believe, all the remedies that can afford any prospect of relief: but, although admitting the possibility of the extension by contagion, he never alludes to the simple and (as we firmly believe,) frequently successful preventive expedient, of declining the services of any surgeon or midwife recently in attendance on similar cases.

An omission of considerable importance in the enumeration of inflammatory diseases, is that of arteritis and phlebitis, and their consequences: neither do we observe any mention of those very peculiar and pathologically important internal inflammations, which so often succeed amputation of limbs in which extensive suppuration had been going on.

It is worth while to quote our author's general idea as to the proximate cause of inflammation, which, however vague and unsatisfactory, has the merit of keeping in view the whole of the principal phenomena, and may be preferred to some of the speculations in this country on the nature of the altered action of vessels in inflamed parts, on the simple principle, that "it is better to stand still than go wrong."

"Cum summâ probabilitate pronunciamus, causam proximam inflammationis esse vitam partis unius morbose exaltatam, productam per stimulum morbosum, quem autocratia naturæ removere nititur, qua provocatur propensio peculiaris in metamorphoses dynamico-organicas."* (§ 206.)

Dr. Bene's third class consists of the Exanthematous Diseases, or "Efflorescentiæ Cutaneæ;" and these he arranges almost exactly after the manner, and using the phraseology, of Willan and Bateman, whose works he seems to have carefully studied. His introductory chapter, "De Efflorescentiis in genere," is a favorable specimen of his learning, observation, and judgment; and, by reference to it, we think he might have shortened considerably the details given in many of the succeeding sections. The arrangement being entirely founded on the appearances on the skin, is liable in this, as in all similar works, to the fundamental objection of bringing together diseases widely different in all their most important characters and consequences, (such, e. g., as small-pox and itch;) and, again, widely separating diseases which have, in the most important particulars, strong natural affinities, (e. g. small-pox and measles, erythema and eczema, rupia and impetigo:) but on this point we do not insist at present.

The enumeration of cutaneous diseases begins very properly with erysipelas, and the chapter on that subject is a good one; but the distinction of the genuine erysipelas, (which he regards as one of the febrile exanthemata,) from the pseudo erysipelas, or erythema, (which he considers simply as an inflammation,) is certainly not correctly laid down, when he asserts that the former is rarely excited by a cause acting directly on the skin, (§ 160;) that the latter goes on much more frequently to suppuration and gangrene, (§ 163;) and that the disease excited by punctures in dissection is of the latter kind only, or, as he calls it, Erythema anatomicum, (§ 174.) He says nothing, under either head, of the practice of punctures or incisions prior to suppuration; and does not seem aware, either here or in the discussion on inflammatory diseases, of the important observations of Duncan on diffuse inflammation of the cellular membrane, (always analogous to, but often unconnected with, erysipelas,) nor of Abercrombie and others on inflammations of the diffuse or erysipelatous character attacking internal membranous parts.

The chapters on scarlatina and measles are full and satisfactory, comprising an account of the various forms of these diseases, and judiciously varied practical directions. We are surprised, however, to see no specific mention of wine, as the most important of all remedies in the typhoid form of these diseases. (§ 193, 207.) The account of morbid appearances is altogether omitted in the description of measles, and in that of scarlatina is given in vague terms,

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* "With the utmost probability, we pronounce the proximate cause of inflammation to be the life of one part morbidly exalted, in consequence of morbid stimulus, which the autocrateia of nature strives to remove, by which is stirred up a peculiar tendency to dynamico-organic changes."

(§ 189,) without any special reference to the symptoms, or the duration of the different cases in which the different lesions described have been found. We are persuaded that some of the appearances described, particularly the "serum in cavis corporis, jam purum, jam liquido puriformi aut sanguine mixtum,"* have belonged, not strictly to the scarlatina, but to inflammatory affections immediately succeeding it, but often excited by a different cause. This we believe also to be the true pathology of the dropsy succeeding scarlatina, which our author regards as a part of the disease itself, and the very frequent connexion of which with organic lesion of the kidneys he does not seem to have observed.

The chapter on small-pox is elaborate and judicious: he seems to us, however, unnecessarily timid as to the use of opium at the period of maturation; and he does not appear to have observed the combination with bronchitis, and congestion, if not inflammation, in the lungs, which is so common and dangerous with us. He makes a resolute stand, in this and other places, against the untenable doctrine of Broussais, that the debility of typhoid cases is only apparent or sympathetic, and dependent on some local inflammation.

> "Verum quidem est," says he, "quod per inflammationem topicam partis imprimis sensibilioris sub decursu variolarum producantur facile turbæ variæ quæ febrim apparenter nervosam referant; utinam omnes tales essent! sed ad lectos ægrorum," (he adds, with perfect truth,) "tristes experiri debemus, dari et febres nervosas genuinas *cum debilitate verâ incidentes;* tales sub exordio non raro mitiorem characterem inflammatorium manifestant, sed ob influxum potentiarum nocentium, ob constitutionem individualem ægri debilem, ob genium epidemiæ regnantis, character nervosus vel nervoso-septicus evolvitur."† (§ 243.)

The accuracy and intelligence of this chapter are indeed such that we cannot fail to be surprised at finding, after a full account of the cow-pox, no further mention of the modified small-pox than the following short and unsatisfactory, if not erroneous, statement:

> "Per contagium variolæ genuinæ, et in iis qui variolas genuinas habuerunt, et in iis qui vaccina genuina instructi fuerint, *varicellas generari* observatio repetita docuit." (§ 268.)‡

The account of the other exanthemata, and of the chronic cutaneous diseases, seems to be so much taken from the writings of Willan, Bateman, and Biett, as to call for no further observations.

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* "Serum in the cavities of the body, sometimes pure, sometimes mixed with puriform-fluid or blood."

† "It is true, indeed, that, by the topical inflammation of a very sensible part in the course of variola, various disturbances are readily produced, which apparently belong to nervous fever; and I wish all were such! but we must regret to find at the bed-side genuine nervous fevers presenting themselves with true debility; such, in the commencement, not unfrequently manifest a mild inflammatory character; but, from the influx of hurtful agents, the feeble constitution of the patient, and the nature of the reigning epidemic, put on a nervous or nervoso-septic character."

‡ "Repeated observation has taught that varicella is generated by the contagion of variola, both in those who have had genuine small-pox, and in those who have had genuine vaccinia."

The fourth class of diseases, occupying the whole third volume, is entitled "Excretiones Morbosæ," and consists of two orders, the Profluvia and Retentiones. This arrangement we think a good one; but his first division of each order consists of Profluvia cruenta, and Retentiones cruentæ; under the first of which heads we have the different hemorrhages, including Menorrhagia, (here termed Metrorrhagia;) and under the last we have not only the Retentio catamenialis and R. lochiorum, but also Retentio epistaxis and R. fluxus hæmorrhoidalis: the two last of which, although properly marked as causes, or as sudden changes of disease, are not correctly entitled diseases; and, although we may admit that hemorrhages, when independent of organic disease, may be ranked along with Profluvia more properly than in any other class, yet those most frequent cases of hemorrhage, which are merely symptomatic of other diseases, ought certainly to be carefully distinguished and separated from the others; which is not done in the work before us. For example, in the account of Hæmatemesis, (§ 39, t. iii.) we are informed that it may result from injury, from poison, or ulceration; that it may be excited without breach of the mucous surface, "per saburram, biliosam, vel verminosam," (which we think doubtful;) by violent exertion, by anger, by suppression of the catamenia or of hæmorrhoids; by tumours of the liver, spleen, or uterus; by sedentary life, by long-continued grief, and by intermittent fever; without any such precise directions as may enable us to discriminate the different cases, which, in their whole pathology, in the prognosis, and practice applicable to them, are so widely different. Thus, also, we have a laboured and indiscriminate enumeration (t. iii. § 29,) of all manner of predisponent and exciting causes, both for the "pneumonorrhagia activa, sthenica," and the "pneumonorrhagia passiva, asthenica;" from which it would be very difficult to extract what is the simple and precise statement of fact, that hæmoptysis is a common effect of excitement of the circulation, in those who have either tubercles or other tumours in the lungs, deranging the circulation there, or ulcers there, or organic disease at the heart; that it is rare when no such organic lesion exists, but sometimes occurs, in young persons, from mere plethora, sometimes as a part of the bloody effusions in purpura or analogous diseases, and also as a vicarious hemorrhage in amenorrhœa.

The true Profluvia are ably and judiciously treated; the chapters on diarrhœa, dysentery, and cholera (both the common and the epidemic species), shew the author to be a careful and candid practitioner; open to conviction on all points, but laudably distrustful of extreme opinions, or exclusive practice of all kinds. In this, as in many other parts of his work, however, we regret that, amid the variety of remedies which he mentions, he does not express himself more decidedly as to those (few, we take for granted, they must be,) on which he really relies in practice.

In regard to the epidemic cholera, (which was very extensively fatal in Hungary, and the rapid extension of which could not, as he thinks, be in any degree explained by contagion,) there are three statements here made, which strike us as important, because they appear to be founded on careful observation: first, that the fumigation by chlorine was used to such an extent, that the manufacturers could hardly supply the demand, until experience shewed that it was really ineffectual, and that "non pauci vapore chlorii continuo circumdati in morbum inciderunt et occubuerunt,"* (§ 145;) secondly, that cold drinks during the disease were peremptorily prohibited by the medical men, until "observatio docuit, quod ægri non pauci, pharmacis omnibus abjectis aquam frigidam hauserint, et feliciter convaluerint;"† after which, cold drinks, and even ice, were freely given, and that under their use reaction frequently took place; a fact, the knowledge of which,‡ in the event of a return of the disease, if unavailing for the cure, may at least be of use in sparing the patients much unnecessary suffering;—thirdly, that the remedy which appeared most effectual, under the author's own observation, in rousing from the state of collapse, was the cold affusion, or even application of ice, to the head and upper parts of the body; while warmth, in one form or another, was assiduously applied to the feet and legs, or even as high as the middle. (§ 155-157.)

Every one who has attended carefully to the subject must, we think, be gratified with the simplicity and good sense of our author's observations on the alleged efficacy of particular remedies: when alluding particularly to the Indian practice of bleeding, calomel, and opium, in cholera, he observes:

> "Summa cum probabilitate choleræ illæ fuerunt tantum mitiores, quales etiam apud nos sanantur; sed in morbo intensiore therapia difficilior est, et pro singulo casu individuali debet therapia rationalis per ingenium medici determinari."‖ (§ 149.)

The order of Retentiones demands few observations. Under the head of jaundice, less pains are taken than we should have thought desirable to discriminate the different varieties, and connect their diagnostic symptoms with the appearances on dissection; and hardly any mention is made of the rapidly fatal termination by coma, seen in a few cases of jaundice; especially, we believe, in those which depend on absolute suppression, or what our author calls "a paralytic state" of the secretion of bile.

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* "— not a few persons, continually surrounded by the vapour of chlorine, were attacked by the disease, and sunk under it."

† "Until observation shewed that not a few patients, all medicines being abandoned, drank cold water, and happily recovered.

‡ An observation corroborated by the experience of Dr. Shute, of Gloucester, and many other British practitioners.—Ed.

‖ "In all probability, those cases of cholera were only of the milder kind which admit of cure among us; but, in the intenser forms, the treatment is more difficult, and a rational plan must be determined on for each case by the judgment of the physician."

The two last genera in this order are Urolithiasis and Arthritis; and, although the account given of both is able and satisfactory, yet there can be no hesitation, we think, about pronouncing both to be misplaced. Gout should certainly be treated among the inflammations, although in a section appropriated to those which have a specific character.* There is a certain degree of advantage, no doubt, in treating of gout and gravel in connexion with each other; but we can hardly recommend that the latter disease should be placed there likewise: it must, at all events, however, be considered as depending on *alteration*, not on *retention* of the excretion. And that there is a notable deficiency in Dr. Bene's work, in his having no order of diseases dependent on depraved secretions, we think obvious, not only from this erroneous position of the Lithiasis, but likewise from his having actually no place for dyspepsia; certain of the symptoms of which only, e. g. gastrodynia and vomitus, are treated separately, and in widely different parts of his system.

The fifth class of diseases, occupying the whole of the fourth volume, is called the Cachexiæ; but he uses this term in a much wider sense than Cullen did, applying it to all chronic diseases attended with paleness of the countenance, flaccidity of the general habit, weakness, and emaciation; and divides the class, after Raimann, into three orders. The first consists of diseases in which, as he expresses it, the organs of reproduction (or rather of nutrition,) in some one texture of the body are in fault; and here he includes syphilis, as appertaining chiefly to the skin; scrofula and struma (i. e. bronchocele,) as appertaining to the lymphatic system; and rickets, to the bones. The second order consists, as he says, of diseases in which either the blood or secreted fluids are chiefly concerned, and here he treats of scorbutus, of chlorosis, of cyanosis, of what he calls Cacochymia mucosa, (which we should have thought sufficiently discussed under the Profluvia,) of worms, of dropsies, and of Pneumatosis; including under this last term cases of general (not pulmonary) emphysema, of tympanitis, globus and flatulent colic, &c.:—and the third order, "Cachexiæ cum Emaciatione," includes tabes and atrophia infantum, phthisis pulmonalis, laryngea, and what he calls Marasmus senilis.

It is obvious that there is, at least in the first two of these orders, as little attempt at a natural or pathological arrangement of the diseases as in any of the other classes; but several of the subjects are treated with much learning and judgment. The article Syphilis is elaborate and accurate; but we believe few British practitioners will think that he has satisfactorily disposed of the question of the non-mercurial treatment of the disease, such as we now see it in Britain, by the following remark:

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* It is worth notice, that the author does not seem aware of the much greater influence of certain liquors than of others,—particularly of fermented than distilled liquors,—in producing gout, nor of the degree of efficacy ascribed by many to antacids, (in combination with the bitters which he recommends,) in arresting it. Neither does he seem to have had much experience of the Vinum Colchici; his dose of which, during the paroxysm, is only gtt. xv. twice or thrice a day.

> "Adferuntur quidem observationes multæ medicorum Anglorum, Gallorum, et Germanorum, quibus probare nituntur, contra ulcera syphilitica hydrargyrum non esse necessarium. Observationes virorum eximiorum in dubium haud vocamus, sed illud nobis maxime probabile est, ulcera quæ consectariis nullis subsecutis sine hydrargyro sanata sunt, non fuisse vera syphilitica."* (T. iv. § 31.)

The answer to this we apprehend must be, that, if so, the ulcera "vera syphilitica" must be so rare in Britain at present as to demand very little attention, in comparison with other complaints springing from the same origin, and following the same general course, as to the textures of the body they successively affect.

Dr. Bene is well aware of several of the dangers to be apprehended from mercury in these diseases, and, among others, mentions ulcers in the mouth and fauces, closely resembling the syphilitic, (§ 29;) but he does not seem to regard affections of the bones as in any case or degree resulting from the use of mercury, (§ 36:) he says nothing of syphilitic ulcers, or other affections, being peculiarly modified by the scrofulous habit, and being, in scrofulous cases, injured or renewed by the use of mercury; and, although he says he would not recommend the "cura magna" by profuse salivation to persons "dispositione nervosa vel phthisica præditis,"† yet he is so far from regarding scrofulous disease as a strong or general contraindication to the use of mercury, that, while he gives a proper caution against proceeding immediately to the mercurial treatment, when the syphilis is complicated with febrile or inflammatory disease, with scurvy, or with any important nervous disorder, he goes on to say, "Subinde complicatur syphilis cum aliis morbis, ut *scrofulis*, rhachitide, infarctibus abdominalibus, qui, licet diversa symptomata, causas et exitus habeant, tamen *therapia eadem*, quæ contra syphilidem indicata est, removeri possunt."‡ (§ 38.) He appears to have seen trials, both of the non-mercurial English treatment, and also of Hahnemann's infinitely small doses, (which is, at least, as fair a trial of the *vis naturæ medicatrix* in these complaints,) but asserts positively that, in Hungary, these methods have failed: and, so strongly impressed is he with the idea of mercury acting strictly on the footing of an antidote to the syphilitic poison, that, in all cases where the system is distinctly infected, and the disease appears inveterate, he strongly warns his readers against stopping or diminishing the remedy when salivation is commencing, and again resuming it, so as never to affect the mouth strongly. By these means, he says, the disease is ineffectually opposed, while the noxious effects of mercury are allowed to take place, and the case is rendered more complex. In all such cases, therefore, he recommends a "salivatio justa quantitate," which he seems, in general, to keep up for several weeks. (§ 42.) In all these respects, his inferences from experience seem to us materially different from those now generally drawn in this country; but whether this difference can be ascribed to inaccurate observation, or whether the poison of syphilis is really somewhat different, or the complication of it with scrofula less formidable in that country than in this, we do not pretend to judge.

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* "Many cases are adduced by the English, French, and German physicians, by which they have endeavoured to prove mercury to be unnecessary in the treatment of syphilitic ulcers. We do not doubt the observations of celebrated men; but to us it appears in the highest degree probable, that the ulcers which have been cured without mercury, without any after-consequences, were not syphilitic."

† "Of a nervous or phthisical constitution."

‡ "Syphilis is occasionally complicated with other diseases, as scrofula, rickets, abdominal infarctions; which, although their symptoms, causes, and terminations are different, may be removed by the treatment indicated in syphilis."

The "cura magna" of mercurial inunction, causing ptyalism to the extent of three pints and upwards in the day, and continued at least four weeks, (§ 41,) is evidently his favourite remedy, in all tolerably healthy persons, in whom secondary symptoms have appeared: but he gives a list (§ 46,) of about one hundred vegetables which have been used as substitutes or auxiliaries; among which we must confess are many, (e.g. the Xanthoxylum fraxineum, Ziziphus trinervium, Zigophillum fabago,) wholly unknown to us; and he speaks highly of the decoction of Zittmann, "quo solo et lues syphilitica perfecte evoluta, et neglecta, et hydrargyro minus congrue tractata sæpe felicissime et brevissimo tempore sanatur."[*] This decoction is prepared after two formulæ, a stronger and a weaker. Of the former, a quart is taken, hot, in the course of the forenoon; and of the latter, an equal quantity, cold, in the afternoon. Sarsaparilla is the main ingredient in both, but in the former there is a quantity of calomel, of cinnabar, (which, as the liquor is strained, we should suppose must be ineffective,) of alum, and senna; the latter contains only some aromatics along with the sarsaparilla. The "cura" in this case lasts eleven days, but these medicines are taken only during eight of them, the first, sixth, and eleventh being occupied by full purging with jalap and calomel. The patient is confined to bed during and for some days' after this discipline. The course is sometimes repeated; but "subinde nec repetitum decoctum votis respondet."[†] We can hardly doubt that these complaints are treated in a safer as well as simpler manner with us; but it would surely be very desirable to have accurate observations, and, if possible, numerical statements, to illustrate both the usual varieties of the disease in Hungary and here, and the comparative effects of this and the British practice.

The chapter on scrofula is short, and, considering that there had been no previous discussion on the scrofulous variety of inflammation, is in several respects unsatisfactory. The usual marks of the scrofulous diathesis are enumerated, but chiefly as applicable to the case of children; and the gradual degeneration, which may certainly take place, from the state of perfect health, to that in which scrofulous disease is easily excited, and which, we believe, may be produced at almost any period of life, by the long-continued action of debilitating causes, is not stated nor illustrated. The influence of hereditary tendency, of improper diet, of impure air, of sedentary habits, and of previous disease, in thus modifying the human constitution, are briefly stated, (§ 50); and these are really, we believe, the most powerful causes; but something should also have been said of climates and seasons; something of mental depression or anxiety, and more of the use of strong liquors, than is implied in the mere enumeration of distilled spirits, along with potatoes, among the articles of diet which may favour the scrofulous tendency.

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[*] "By which alone both syphilitic lues. perfectly evolved, and neglected, and improperly treated by mercury, is often most happily cured, and in a very short space of time."

[†] "Sometimes even the decoction, when repeated, is ineffectual."

The disease is regarded as chiefly seated in the lymphatic vessels, and accurately described as it appears in the external lymphatic glands: but there is an enumeration of the diseases depending on scrofulous internal affections, in all the cavities of the body, (§ 49,) which opens a wide field for pathological discussions, and practical admonitions, subsequently almost entirely neglected. The frequent occurrence of chronic inflammations, in connexion with distinctly scrofulous disease, is merely stated, (§ 51;) but there is no minute description of scrofulous tubercles, nor enumeration of the textures in which they form, nor statement of the other morbid appearances usually attending them, nor discussion of the question, how far the inflammatory appearances, so frequently combined with them, can be regarded as indicating their exciting cause, or in what circumstances these are to be held to be merely their effects.

The importance of a tonic regimen in correcting the scrofulous diathesis, and, on the other hand, the frequency of inflammatory symptoms, demanding a somewhat antiphlogistic treatment, are fairly stated, (§ 52 and 53;) but we think our knowledge of the morbid changes usually found in scrofulous cases would have warranted some more specific statements as to the use of these last remedies than the following:

> "Per observationes circa ægros convincimur, in scrofulosis adesse diathesim phlogisticam peculiarem, et non raro in membrana mucosa ventriculi et tubi intestinalis evolvitur inflammatio; dum eam observamus, exhibemus initio emollientia, externe quoque applicamus cataplasmata emollientia, quibus haud sufficientibus, statu phlogistico intensiori reddito ad hirudines recurrimus, caute tamen, bene gnari, quod per hæmorrhagiam ultra justos limites continuatam morbus scrofulosus universalis incrementa nova capiat."* (§ 53.)

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* "We are convinced, by observations made on the sick, that there is a peculiar phlogistic diathesis in scrofulous subjects, and that inflammation is not unfrequently

In regard to the use and degree of efficacy of the tonic regimen, of baths, of alkalies, acids, various alteratives, and iodine, in correcting or opposing the scrofulous tendency, we find some sensible and not exaggerated observations, but no novelty.

The chapters on bronchocele and rickets are more satisfactory, we think, than that on scrofula; but, passing over them, and also several of the cachexiæ thought to depend on a morbid state of the blood, or secreted fluids, we go on to notice the chapter on dropsies; and shall only remark on this part of the arrangement, that, if it be, as we certainly think it, improper to rank dropsies in the same order with scurvy and with cyanosis, it seems equally inconsistent with good arrangement to rank acute hydrocephalus as the first of the dropsies; more particularly as serous effusion, directly consequent on inflammation, had been fully discussed formerly, and as the only practice recommended for the hydrocephalus is the vigorous use of antiphlogistic remedies, and especially the "sanguinis evacuatio nunquam negligenda." Two important objections occur to us to the treatment here enjoined for acute hydrocephalus, (§ 100.) 1. The bloodletting is advised to be from the arm only, "in ægro adultiori habitu plethorico prædito." Now we have seen so many examples of the decided efficacy of general bloodletting, and of the comparative inefficacy of leeching, in children even of feeble habit, that we are confident in recommending the former, in all well-marked cases beyond the age of four or five; and regard it as contra-indicated, or likely to fail, in this as in many other cases, not where the habit of body is feeble, but only when the slow, gradual, and insidious progress of the disease indicates that the action on which it depends is materially different from active inflammation. 2. He seems to use calomel chiefly with a view to its constitutional effects, and does not seem to be aware of the decided advantage, seen in many cases of at least threatening hydrocephalus, even at a later period than that to which bloodletting is adapted, from full and repeated purging.

The section on hydrothorax we do not think satisfactory. It is not stated with sufficient distinctness, that the serous effusion is in by far the greater number of cases only an effect, (often one of the last effects,) of disease, either of the heart or lungs, of such extent as to be highly dangerous, even if this particular result should not follow. Hardly any of the symptoms enumerated (§ 109) are characteristic, and, although he assigns the proper cause for the starting from sleep, he is certainly incorrect in saying, that the fluctuation of the fluid is ever audible in a case of simple hydrothorax: he is not sufficiently precise in his statement as to the dull

evolved in the mucous membrane of the stomach and intestinal tube: observing that, we exhibit in the beginning emollients, and apply emollient cataplasms externally: if these do not suffice, the phlogistic state becoming more intense, we have recourse to leeches, cautiously however, well knowing that, by bleeding carried beyond its just limits, scrofula is aggravated."

sound on percussion, and the absence of the respiratory murmur, being in some cases of hydrothorax (we do not say in all,) distinctly observed to change their seat, on changing the position of the body; nor does he explain, as clearly as he might have done, the means by which we are to judge whether the serous effusion is complicated chiefly with disease of the heart, with bronchitis, œdema or emphysema of the lungs, or with the effects of previous inflammation in the lungs themselves; nor is there any minute specification of the different organic lesions of the heart and great vessels which may obstruct the flowing blood, nor of the means of distinguishing them. On all these subjects we are willing to admit, that many recent works exhibit a minuteness of diagnosis not easily attainable, nor easily applied to any useful purpose, if attained; but it is in vain to deny, that knowledge of several of these points, where it can be procured, is occasionally very important in practice. We willingly admit, however, that our author shews himself to be well acquainted with all the useful remedies, and with most of the principles which assist us in their selection, (§ 112.)

The sections on anasarca and on ascites we think less open to objection than that on hydrothorax; and in particular the occasional effect of inflammatory action in producing these effusions is fairly admitted, without being too exclusively dwelt on; but here, as elsewhere, we must complain of the indiscriminate enumeration of causes, predisponent and exciting, internal and external (§ 95 and 116.)

The Cachexiæ cum emaciatione are, almost exclusively, a supplement to the chapter on scrofula. Under the head of Tabes there is a description of gradually increasing emaciation and debility, passing on to hectic fever, and then an enumeration of the various modes in which it may be conceived that the natural process of nutrition of the body may be so impaired, and that these consequences may follow, (§ 128;) great part of which seems to us to have no foundation in practical observation, but in which organic diseases of the different abdominal viscera are properly included. This chapter we regard as an illustration of the difficulty of incorporating the older distinctions of diseases, founded on mere observation of their symptoms, with the more accurate knowledge of the organic lesions attending or producing them, which modern pathology has obtained. We would further observe, that, in speaking of ulceration of the bowels as one of the causes of hectic fever, and in his distinction of the bilious and mucous hectic from the nervous hectic, he does not seem aware of the frequent occurrence of congestion of blood, even of inflammation, and ulceration in mucous membranes, as a consequence, rather than a cause, of extreme emaciation and debility, and of the illustration of this principle from what is seen in fasting animals.

The chapter on Atrophia infantum is an account of the Tabes mesenterica: our only objections to which are, that it describes the disease as following a more uniform course than it generally does; and that it contains no minute description of the changes that take place in the mesenteric glands during the disease, nor of the lesions of other parts which so often accompany it.

The chapter on Phthisis affords ample evidence that, although the author would recognize the disease perfectly, and treat it judiciously, in a *great majority of cases*, yet he is not intimately acquainted with the changes which the structure of the lungs undergoes, nor with the surest indications of those in the living body; and in *a few cases* this want of information must be injurious. He describes four species of the disease; in the first two of which, (P. nervosa and P. catarrhosa,) the substance of the lungs is unaffected, which therefore are modifications of bronchitis, the first without, the last with, copious expectoration. His third species is the Phthisis apostematica, which he seems to regard as the only one really consequent on inflammation of the lungs, and in which he supposes one or more vomicæ to form in the lungs, not preceded by tubercular deposits. Lastly, his Phthisis tuberculosa includes all the cases generally regarded as belonging to the true phthisis. This he seems to regard as occurring only in those who have the usual marks of the phthisical tendency, or tubercular diathesis, and he describes the symptoms in them as constituting four stages: the Stadium incubationis, S. inflammatorium, S. suppurationis, and S. colliquationis. There is a supplementary chapter on Phthisis laryngea and trachealis, which does not demand any special comments.

He makes no mention, in treating of the Phthisis catarrhalis, of the emphysematous state of the lungs, which is that complication, according to our experience, which most frequently makes the bronchitis of young persons take the form of phthisis: he does not seem aware of the extreme rarity, according to all recent experience, of the P. apostematica, such as he describes it: he says nothing of the case, by no means uncommon, when the P. tuberculosa is so general over the lungs as to be fatal in the first stage, almost before hectic has formed, certainly before there is suppuration or ulceration, or when these are of trifling amount, and where the symptoms are those of somewhat chronic pneumonia rather than of phthisis, and would seem to come under his head of P. apostematica rather than tuberculosa. He hardly states the question of the origin of tubercles, or rather of the possibility of their originating in different ways, and of one mode of their deposition being counteracted by antiphlogistic treatment: he does not notice the remarkable variety of the symptoms of the disease as occurring in old or young persons; nor does he illustrate the incessant operation of the main external causes of the disease by any statistical statements.

Again, his account of the symptoms yielded by auscultation in phthisical cases (§ 141,) seems to us not only meager but incorrect. He says that in the crude state of tubercles, in the part of the chest where they lie, "nullus percipitur strepitus respirationis,"* without remarking, that this is only when a certain number of them have coalesced: he makes no mention of the *gargouillement*, or *râle caverneux*, as going along with resonance of the voice when a cavity has formed; and he seems to think that the metallic tinkling is to be heard whenever a tubercular cavity (not mentioning its size) is only partially emptied; and that the ægophony (vox tremula similis voci caprarum) is characteristic of the state of pneumothorax supervening on phthisis. (See the last sentence of § 141.)

It is right to state, however, that the prophylactic measures which he advises appear quite judicious; that he seems well acquainted with all the remedies by which the disease may be restrained or palliated; and that he puts the question of the possibility of recovery on its true footing, by stating that there is nothing essentially malignant, or incapable of favorable termination in the existence, or even in the suppuration and ulceration of tubercles; but that their fatality depends simply on the extent and frequency of the successive deposits, and on the extreme difficulty of correcting the tendency to them, after they have once commenced. (§ 143 to 147.)

The sixth class of diseases, occupying the whole fifth volume, consists of the Neuroses; and we think it obvious, that the diseases he has referred to this class form a much better marked natural family than those described by Cullen under the same title. They are divided into Dolores, Spasmi, Debilitates, and Vesaniæ; and these orders are also, we think, correctly marked out, although the term debilitates, applied to apoplexy, palsy, syncope, or animi deliquia, and asphyxia, is objectionable, and some of the genera in this and other orders seem to us to be misplaced.

The general and obvious distinction of the functional and organic diseases of the nervous system is clearly pointed out in the preliminary chapter, under the quaint expression Neurosis sine materia and Neurosis cum materia; there is likewise a fair statement of the importance, and at the same time of the difficulty, of the distinction of idiopathic from symptomatic affections of the nervous system; and we must admit that, however desirable it may seem, it is hardly possible, in the present state of our knowledge, to assume either of these distinctions as the groundwork of a nosological arrangement. There is likewise, in this preliminary chapter, a judicious and useful summary of the various means of treatment which may be employed in nervous diseases; and the general indications for them are drawn, not so much from the nervous affections themselves, as from the state of the circulation, digestion, and general health and strength, with which they may be combined. (§ 6-10, t. v.)

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* "No respiratory murmur is heard."

But, in the discussion of nervous affections in detail, we meet with various errors and deficiencies; some of which are perhaps inseparable from the formal mode of distinguishing and treating them which is here adopted. Admitting that it is extremely difficult to form genera of nervous diseases, at once grounded on true pathology and available in practice, we must still observe, that, when single symptoms, common to so many diseases, as cephalalgia and rachialgia, are formally treated as separate diseases, and all their causes enumerated, not only a great deal of repetition is inevitable, but due weight cannot be given to other and often more diagnostic symptoms, nor to distinctions founded on the nature and effects of diseased actions.

We shall notice some objections that occurred to us in looking over these chapters.

Under the head of Cephalalgia, it is stated that headachs, connected with intermittent fever, may be very intense, but intermitting, and may be cured by bark; and, again, that headach may proceed from syphilis, and be cured by mercury; but it is not stated that intermitting headachs, although totally unconnected with ague, may be successfully treated nearly in the same way; and that headachs, not strictly venereal, if connected with disease of the bones and membranes, may often be relieved by mercury or analogous remedies. Under the head of Rachialgia he describes, although very imperfectly, the morbus dorsalis, as if it were a consequence of affection of the spinal chord, "in morbo diutius durante ob processum dynamicum abnormem exoriuntur inflammationes lentæ in vertebris,"* &c. (§ 22;) which, we apprehend, is hardly ever the real cause of the changes.

Under the head of Neuralgia, we observe no mention of those stitches in the sides, or in various parts of the integuments of the trunk of the body, which often deserve the name of neuralgia rather than any other; and neither here nor under the Rachialgia is mention made of the tenderness over the vertebræ next the origin of the spinal nerves which may be affected, as a mark certainly sometimes aiding the diagnosis of such nervous pains. The term neuralgia is not applied here to any pains of internal parts; nor is it stated, as distinctly as we think it might have been, in the chapters on angina pectoris, on gastralgia, and enteralgia, that some of the severest pains ever felt in internal parts seem to be strictly of the same character.

That, under the title of Gastralgia and Enteralgia, our author puts together cases which have no pathological connexion, and which it is truly important to distinguish in practice, appears distinctly from the following enumeration of the morbid appearances found in the latter case: "Reperiuntur non raro indurationes in una vel pluribus partibus tubi intestinalis, subinde emollitiones morbosæ, in uno loco coarctationes, in alia dilatationes, exulcerationes jam superficiales, jam profundiores, subinde perforationes tubi intestinalis,"* (§ 58:) but, while this statement is made, there is no specification of the means of distinguishing these different cases from one another, or from the case where "dolores intensissimi excruciant ægrum tantum ob sensibilitatem morbose exaltatam."†

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* "When the disease is of longer continuance, from the irregular dynamic process, slow inflammation takes place in the vertebræ," &c.

We doubt the propriety of placing Odontalgia among the neuroses; and still more the propriety of treating of the various complaints connected with the teething of children under the same head as the toothach of adults, as is done here. Indeed, several of these complaints are so widely different from each other, that it seems obvious that the cutting of the teeth should be considered as their exciting cause merely, not as their nosological character.

The Spasmi form a natural family of diseases, so easily distinguished from all others that there can be no difficulty as to their being treated together; and our author has certainly done right in excluding some of the genera placed here by Cullen, particularly the diarrhœa and diabetes; but we think it clear that the hypochondriasis, notwithstanding what is so often said of its alliance with hysteria, should be ranked with the Vesaniæ, not with the Spasmi: and equally clear that both incubus (nightmare) and angina pectoris belong to the Dolores, rather than the Spasmi. If any affection of the heart belong to this class, it is clearly as Cullen taught, the palpitation, not the pain, which in many cases is more correctly described by the term Syncope anginosa.

The true spasmodic diseases, in which the muscles of voluntary motion and of respiration are concerned, are fully and accurately described; and the practice best recommended by experience for their cure or relief is, we believe, fairly and judiciously stated. The hydrophobia seems a favourite subject: no reliance is placed on any means of prevention or cure, except excision or cauterizing; but it is stated that the best preventive recommended is the powder of belladonna, given twice a day, in small doses, gradually increased till the head is affected, and the affection maintained for some days; and that the remedy, after bleeding and mercury, which has seemed to have most effect, is the powder of cantharides, in gradually increasing doses given every two hours, till some of its irritant effects are observed.

The author does not seem aware of the degree of advantage which many practitioners in this country have thought they have obtained from the continued use of purgatives, in tetanus, hysteria, and chorea; and, in the last case in particular, he seems to think that the advantage from purging is confined to the cases where morbid matters seem to have accumulated in the intestines, and are evacuated under their use, (see § 126;) which, we are satisfied from observation, is by no means the case. We apprehend that great part of the beneficial effect of continued purging in the chronic nervous affections is to be ascribed to their acting as *derivants* or counter-irritants on a large scale.

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* "Indurations are not unfrequently found in one or more parts of the intestinal canal; occasionally morbid softening, contractions in one part, dilatations in another, ulcerations deep or superficial, sometimes perforations."

† "The most excruciating pains affect the patient solely from morbidly exalted sensibility."

Under the head of Asthma and Pertussis there is a serious omission, in no mention being made of the emphysematous state of the lungs, naturally consequent on both these diseases, and often acting as the chief cause of other more dangerous sequelæ.

The next order, the Debilitates, is of much more questionable propriety. It includes all the varieties of apoplexy and palsy, syncope (or Animi deliquia), and asphyxia, including the A. "ab aëre mephitico," which is properly a case of poisoning, that "per congelationem," and that "a fulmine." Several of these affections are, in point of pathology, as widely different as possible, and several of them being the immediate effects of injury or violence, are, we think, more properly treated separately, and premised to any account of diseases, than ranked as varieties of disease.

Although apoplexy is well described, most of its external causes and varieties enumerated, and the premonitory symptoms and preventive regimen, as well as the treatment, accurately and carefully stated, no mention is made of the well-marked variety, accurately described by Dr. Abercrombie, in which the first attack resembles syncope, and is followed by a short recovery of sense and motion, and then by gradual, profound, and fatal coma; the course of the symptoms accurately resembling those of concussion of the brain attended with extravasation, and the appearances on dissection being uniformly extensive effusion of blood. We must observe, also, that the account of the morbid appearances after apoplexy (§ 174,) is vague and imperfect: there is no attempt to connect the very various appearances with variety in the symptoms or progress of the disease; there is no description of the changes which follow the effusion of blood, in cases not quickly fatal; nor any mention of the diseased state of the vessels within the cranium, so often seen to accompany, and in part to explain, the effusion of blood: nor are we satisfied with the specific character assigned to the "Apoplexia asthenica," demanding, as the author thinks, the stimulating treatment, which character, it is said, the disease "habet ab exordio in ægris exhaustis, cachecticis, per evacuationes nimias in hunc morbum conjectis."* For it is certain that the true sanguine apoplexy, admitting of relief from evacuations, may occur in the most weakly and exhausted subjects; and we doubt whether truly apoplectic symptoms are ever the effect of excessive evacuations, excepting in the case, accurately described by Abercrombie, by Gooch, and Marshall Hall, (none of whom are quoted on this point,) of young children falling into a state of stupor after severe diarrhœa; in which case, the coldness of the surface, feebleness of pulse, and absence of palsy, are important diagnostics, not here specified.

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* "—has from the beginning in exhausted and cachectic patients, in whom the disease is brought on by excessive evacuations."

In regard to the treatment of palsy, we are not surprised at the statement, "methodus antiphlogistica in casibus tantum paucioribus proficua est;* but we should hardly have expected an experienced practitioner to add, (without any distinction of the cerebral from the partial or merely muscular palsy,) "in longe pluribus, ob characterem totius morbi asthenicum, remedia stimulantia jam mitiora jam fortiora *necessaria* sunt,"† (§ 184;) because, without absolutely denying the specific agency of certain stimulants in palsied nerves or muscles, we cannot but regard their use as often hazardous, and their efficacy as generally slight, and look on the recovery from the usual form of palsy as chiefly the work of nature, and one to which she is perfectly competent, in cases where the general health has been previously good, and where the lesion of the nervous system has not been originally great, and has been prevented, by the proper remedies, from extending itself.

Having already protested against the various cases of syncope and asphyxia being classed along with apoplexy and palsy, we shall only further observe on these affections, (the nature of the danger in which seems to be, in general, correctly apprehended by our author, and the treatment of which is, we think, very judiciously laid down,) that, if the effect of extreme cold, and of lightning, are properly treated under the head of asphyxia, so also ought the effect of extreme heat, or *coup de soleil*, which is only mentioned as one of the causes of apoplexy, (§ 173.) But, in fact, the effect of all these is more analogous to *concussion* of the brain than either to apoplexy or suffocation, and they ought to be studied in connexion with the different cases of concussion which are, in the first instance, unattended with lesion of the structure of the brain.

There can be no question as to the propriety of forming a distinct class of the diseases last treated by our author, the Vesaniæ; and the chapter on this subject is an excellent one, indicating both much reading and habitual observation and reflection. The metaphysical statement of the aberration of the mental faculties does not appear to us satisfactory; and we perceive little information to assist us in the decision of those difficult questions, often occurring in courts of law, when the exact line of distinction between insanity and mere irritability of temper, or eccentricity of character, is to be traced; but the history, the chief causes, the varieties, and the proper treatment, physical and moral, of these lamentable diseases, are fully and judiciously stated and illustrated. The general rules laid down as to the construction and economy of lunatic asylums (§ 217-18,) are worthy, we think, of all commendation. We must add, however, that the morbid appearances found after insanity are mentioned (§ 215,) very briefly and somewhat vaguely, and no mention is made of peculiarity of form of the bones of the head, certainly obvious in many such cases. The only objection that struck us to the treatment recommended is, the unnecessary and even dangerous timidity evinced by the author as to the use of opium in delirium tremens, (§ 235;) which we can only explain by supposing him to have had, fortunately for his country, little opportunity of observing that form of insanity.

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* "The antiphlogistic method is only advantageous in very few cases."

† "In by far the greater number, on account of the asthenic character of the whole disease, milder or stronger stimulant remedies are necessary."

We have looked over the therapeutical parts of the work with the special view of observing any remedies or modes of practice which are unknown in this country, without further success than finding a number of vegetables named as fit for fulfilling various indications, with which we are not acquainted, (e. g. among diuretics, the Cainca, the Ballota lanata, and Ononis spinosa;) but the enumeration of individual remedies is in all cases so copious, that we often feel desirous of more decided recommendations as to their comparative efficacy, and the proper selection to be made among them.

The great fault of the work, however, which forbids our anticipating for it an enduring or extended reputation, is its not being sufficiently grounded on pathology. The author is not unacquainted with the best modern authors on morbid anatomy, but he has not made the proper use of their labours; and it is important to observe in what manner he has failed to turn them to proper account. He has attempted, as we have already observed, to ingraft the more accurate modern distinctions of morbid appearances on the older distinctions of diseases, drawn from their external symptoms only; and the attempt, instead of simplifying, has only given additional complication, both to the discussion of individual diseases and to the general arrangement of the subject. The proper use to be made of the more accurate morbid anatomy is to correct the histories and remodel the distinctions and arrangements of diseases from their foundation,—to separate those distinctions which are essential and uniform, and founded on the nature of diseased actions, from those which are dependent on adventitious circumstances, and therefore liable to continual variation,—and thus to give simplicity and precision to our views of the distinctions among diseases, and facilitate the application of practical experience.

It is true that there are many diseases, into the nature of which morbid anatomy gives us no insight; and that, with respect to all, the information it gives is available for the explanation of the phenomena only up to a certain point: but it always enables us to judge whether a disease, or the fatal event of a disease, is susceptible of explanation in this way or not. It is always one of the elements by which we are to judge of the nature and true distinctions of diseases; and those cases in which nothing is seen to account for the fatal event, are just as valuable, in this view, as those where it is most satisfactorily explained.

It is to the arrangement of acute diseases that these observations are most applicable; and it is here that the defects of our author's plan are most conspicuous. We have already stated that, by the method which he follows, cases of several of the strictly inflammatory diseases fall to be considered along with the fevers, as in the case of Febris gastrica, Febris catarrhalis, Febris rheumatica. In like manner, it is plain (particularly from § 98, t. i.) that, under the head of "Febris cum charactere nervoso," he includes cases of decided inflammation of the brain; and we have already remarked that, among his Efflorescentiæ cutaneæ, he has diseases in juxta position which are, in all respects except the appearance of the rash on the skin, the most widely dissimilar.

On the other hand, we find descriptions of diseases essentially identical in very different parts of his work: we have typhoid fever, for example, such as it daily presents itself to our observation, fully described, first among the "Febres continuæ cardinales;" we meet with it again, with such slight complications as are of daily occurrence, under several of the "Febres continuæ compositæ," (see particularly § 108, 116, 123, 135;) and then we have another full discussion of the subject, under the title Typhus contagiosus Europæus; and, lest any cases should escape observation under this last head, it is distinctly stated that what is here described may arise from miasma as well as contagion, and that it is very frequently complicated with local inflammatory affections in all the different textures and organs of the body. (§ 159 *et seq.*)*

Again, it is impossible to read the descriptions of the Febris catarrhalis and the Febris gastrica mucosa, in the first volume, (i. e. of those varieties, there described, in which the fever has the inflammatory, not the septic or nervous, character), and again the description of Bronchitis, (§ 30, t. ii.) and of Dysenteria, (§ 118, *et seq.* t. iii.,) without perceiving that the same diseases are there described. Our readers will at once perceive that the arrangement of the chronic diseases is also completely artificial, and in many instances liable to similar objections. Thus, we have scrofula and rickets in one order of the Cachexiæ; phthisis and tabes mesenterica in another; diarrhœa, of all descriptions, among the Profluvia; and infarctus and obstructio of all sorts among the "Exitus inflammationis."

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* Indeed, the whole long discussion on the Febres continuæ cardinales, considering that the different forms and complications of continued fever are fully described afterwards, is clearly obnoxious to the ridicule thrown by Broussais and his followers on medical "Ontologists." The term is incorrect, and the ridicule inapplicable, in the case of those pathologists who merely maintain that fever is a *general* disease and distinguished from one of *local* origin; but they are strictly applicable to those who, after describing the history and treatment of different forms of febrile disease, tell us that these are, after all, only *abstract* forms, not actually occurring in practice.

Now, the laboured distinctions and arrangements of diseases can be of no use, unless the young practitioner is taught to believe that it is of practical importance for him to know to what part of the nosology which he learns the individual cases that occur to him are to be referred; and, if he believes this, what result can follow from his finding the same phenomena described under so widely different heads, and different phenomena under the same? Nothing, we apprehend, but confusion and consequent irresolution.

We do not mean to deny that there are difficulties in the way of any systematic arrangement of diseases, founded on such knowledge of their pathology as we possess; but we are confident that a much nearer approach to such an arrangement than has been here attempted might easily be made, and would greatly simplify the subject, and prevent many repetitions. In fact, Cullen's Nosology, so far as acute diseases are concerned, is a much nearer approach to a natural method of arrangement; and the subsequent investigations in morbid anatomy ought to be employed, by any systematic writer of the present day, to simplify, not to complicate or mystify, that arrangement.

In particular, we may derive from this source a full confirmation of the expediency of maintaining, even more decidedly than Cullen did, the grand and essential distinction between the inflammatory and the strictly febrile diseases, under which last head we should include, not merely fevers, continued and intermittent, but all the contagious exanthemata, and probably what are usually regarded as certain forms of inflammatory diseases. That this must be really the foundation of any natural arrangement of acute diseases, founded on a knowledge of their whole pathology, appears, we think, from attending to the following points, in which these diseases are remarkably contrasted with one another.

1. The inflammatory diseases depend on causes which are constantly in operation, and therefore occur pretty uniformly in every large community, when long periods of time are compared, undergoing pretty regular variations of frequency, according to climate, season, and modes of life; whereas the strictly febrile diseases depend on the agency of specific poisons, which are frequently absent even from large communities, in extensive districts, or for long periods of time; and again, at other times, attack great numbers within narrow limits of space or time, either endemically at certain seasons and in certain localities, or epidemically at irregular periods.

2. The causes exciting the inflammatory diseases are, in general, external to the living system, and their application is necessarily

transient; but, from the time of that application, certain of the symptoms usually continue, until the diseases themselves are fairly developed: whereas, those which excite the strictly febrile diseases have always a certain latent period, indicating that they have been taken into the system, and are silently working within it for some time before their effects shew themselves; and, in most of these cases, the continued operation of a poison, which has been introduced into the body, is further shewn by the discharge of effluvia, capable of acting, in their turn, as a cause of the same disease.

3. The whole history, the terminations, and the sequelæ of inflammatory diseases, and the experience of remedies in them, establish these points,—that they depend on diseased *actions*, which have been excited in the system, but which depleting remedies, if early employed, can arrest, and which, if not arrested, naturally lead to certain alterations of structure, permanent, at least for a time, after the actions producing them have ceased; whereas, the strictly febrile diseases appear, when we reflect on the corresponding parts of their history, on the peculiarity of their typhoid symptoms, and on their critical terminations, to depend on the operation of *poisons*, which have been taken into the system, and which our remedies cannot expel. These diseases therefore, when once excited, must, in almost all cases, run their course; and, although they may be *modified*, cannot be *arrested* by depleting remedies,* nor by any thing acting otherwise than as specific antidotes; and, when they abate, however violent they may have been, and however slight the depletion by which they may have been opposed, unless they have been distinctly combined with local affections, not essential to their nature, they leave behind them no marks of alteration of internal structure.

4. When the inflammatory diseases are fatal, they very generally leave behind them tolerably uniform and characteristic indications of injury to the parts affected, such as, according to known laws of the animal economy, afford an adequate explanation of the fatal event: whereas, the morbid appearances left after the strictly febrile diseases are remarkably various, are comparatively slight, sometimes imperceptible,† and very generally inadequate to the explanation,

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* The case of continued fever, cut short by bleeding, vomiting, and purging, is hardly an exception to this principle; because it is a case of very rare occurrence, and because, when it does occur, it seems certain that the amount of evacuation, effectual for the purpose, is often trifling, and therefore that it is not on the principle of depletion that these expedients act.

† We very much doubt whether the exudation either of coagulable lymph, or of pus, such as characterize healthy inflammation, in any internal part, is *ever* the consequence of any of these strictly febrile diseases, if carefully distinguished from the inflammations which frequently supervene upon them; and we are certain that any such strictly inflammatory effusion, *in the course* of these diseases, must be extremely rare. The internal inflammations attending them are in many cases obviously accidental combinations, and in all appear to be of peculiarly modified or specific character.

on these principles, of the fatal event; and therefore coincide with the other particulars already noticed in indicating the noxious operation of a poison introduced into the system, and operating there independently of any inflammation which may either coexist with its action, or even be excited by its own influence.

It is because we are confident that this last statement is a correct account of the general result of experience in these diseases, that we have asserted that the modern improvements in morbid anatomy confirm the propriety and importance of maintaining this line of distinction among acute diseases. We are perfectly aware, that cases occur, in which it may be difficult to observe the distinction with certainty. The law of continuity seems to be so generally observed by nature, that we can hardly point out any two natural objects, however strongly contrasted, towards which a series of intermediate links does not exist. The erysipelas and diffuse inflammations in general, and epidemic dysentery, may be said to hold an intermediate place between the two great classes of disease now mentioned; the existence of a peculiar morbid poison (whether atmospheric or contagious) in many of these cases being at least highly probable, while the inflammation essential to these diseases is frequently of such intensity as to imply, of itself, great danger. But we think that any one who has duly reflected on the points of distinction above stated, must be convinced that, in every arrangement of acute diseases, the difference of the simply inflammatory from the strictly febrile diseases should be carefully respected; and it need hardly be said, that this has not been done in the present work.

We think it obvious, likewise, that the inflammatory diseases ought to be treated first; because much of the pathology and treatment of the strictly febrile diseases must always turn on the observation of those varieties of local inflammation, which coexist or combine themselves with the more characteristic febrile symptoms, and it is often by observing the deflection from the usual course, and usual effects of inflammations previously explained, that we can best characterize those acute diseases which we regard as of an essentially different class. In this respect, also, the arrangement of our author, although common, appears to us to be injudicious.

Again, under the head of inflammatory diseases, we may easily make an important distinction between those occurring in a constitution previously sound, and producing only the characteristic effects of simple inflammation; and those which occur in a constitution previously disposed to peculiar forms of disease, and modified by that peculiarity of habit. The peculiar results to be expected from inflammation, when occurring, or at least maintaining itself for any considerable time, in one who is already disposed to scrofulous diseases—to gout, probably to rheumatism, to purpura, to asthma, to dropsy, or other constitutional chronic disease, may easily be described, and to a certain extent explained, and distinguished from, although seen to graduate insensibly into those which take place in a perfectly healthy subject, where inflammatory effusion consists of lymph or of pus only, and is followed by gradual absorption of the effused matter. And it is thus that we ought to connect inflammation with these chronic diseases, (whether organic or habitual) which our author merely enumerates as its occasional effects, and afterwards discusses in a totally different part of his work. Reflection on morbid appearances, and especially on the gradual transition of the acknowledged effects of inflammation into other forms of organic disease, will, we apprehend, as clearly illustrate a connexion between inflammation of the serous membranes and the dropsies, between inflammation of the mucous membranes and the profluvia, between inflammation of various healthy textures and the generation of adventitious textures by "perverted nutrition," as it will illustrate the distinction between inflammations and fevers; and no arrangement of the chronic diseases can ever be satisfactory, in which that connexion, and the transition from acute to chronic disease thus effected, is not made one of the principles of classification.

We are aware that, in offering these strictures on the plan and arrangement of the work of Professor Bene, we state objections which apply equally to many other systematic authors, and to our own countrymen quite as much as to continental writers; and we are far from thinking that our knowledge of pathology is so far advanced as to enable us to found on it a complete and strictly natural arrangement of diseases. But we have thought this a good opportunity of stating our conviction, that, in the present state of pathology, all who attempt a systematic arrangement of medical science ought to endeavour to take it as their guide, and strive to make it the basis of a more natural classification of diseases than is yet in use; and that, until this is effected, however much the details of morbid anatomy may be cultivated, the study of pathology, in the wider and more legitimate sense of the term, will not have assumed its due importance, nor produced the beneficial influence which we trust it is yet destined to exert, in facilitating the study and directing the practice of medicine.

Art. II.

Memoir of the Life and Medical Opinions of John Armstrong, m.d., *formerly Physician to the Fever Institution of London; author of "Practical Illustrations of Typhus and Scarlet Fever," &c. &c. To which is added, an Inquiry into the Facts connected with those Forms of Fever attributed to Malaria or Marsh Effluvium.* By Francis Boott, m.d. &c. &c.—2 vols. 8vo. pp. 616, 726. *London*, 1833-34. Baldwin; and Rainford.

Lectures on the Morbid Anatomy, Nature, and Treatment of Acute and Chronic Diseases, delivered in the Theatre of Anatomy, Webb street, by the late John Armstrong, m.d., &c. &c. Edited by Joseph Rix, Member of the Royal College of Surgeons, London.—8vo. pp. 851. *London*, 1834.

Although one of these works has been two years before the public, we cannot resist the temptation of arresting, for a brief space, the attention of the reader, eager perhaps in the pursuit of novelty and ambition, and of directing it to the Life and Works of one for whom novelty and ambition had considerable charms, and whose life and death afford not a few lessons to all who are following in the same path.

There has seldom existed a physician concerning whose real character and objects opinions varied more widely than concerning those of Dr. Armstrong. His zealous friends spoke, and yet speak, of him as his accomplished biographer does, as "one whose labours were directed to the promotion of the common good of mankind, and whose sagacity has thrown light on the nature and treatment of human maladies." They admired his genius, his elevated views, his simplicity of mind, and the virtues of his heart. Yet, strange to say, there were not a few persons, who had been intimate with Dr. Armstrong after his removal to London, and who looked upon him as a man of moderate ability, of great self-confidence, dominated by a restless and ill-regulated ambition, and in his friendships capricious, if not insincere. The same diversity of opinion existed respecting his qualifications as a practitioner. His admirers regarded him as a model of perspicuity and judgment; whilst not a few of his professional brethren looked upon him as equally visionary and unstable. Even at this day, the sentences in which we have embodied these conflicting views, will be read with indignation or with pleasure, by many who will deem the favourable view partial or absurd, or the unfavourable view unjust or false. Difficult as it is to arrive at a just estimate of the merits of one whose merits have been so much disputed, we may now, perhaps, when death has removed him alike from his friends and his enemies, be enabled to come to some correct conclusion. His history, short as it is, and his death, which occurred in the prime of his life, and in the midst of all that is generally considered to make life desirable, may at least be contemplated with some advantage to the living, yet engaged in schemes which animated him, and sustained by hopes which only left him with his latest breath.

The origin and early education of men, however lost sight of amidst advantages subsequently enjoyed and honours attained, exercise, we believe, on all a continual influence: difficult to be traced, it may be, in the public deportment of individuals, but felt and known by every man who reflects upon himself; and, if not ever active, at least often operating on the conduct and feelings. The parents of Armstrong were persons of humble origin, but of integrity and respectability in the best sense. He passed a few years at a country school of indifferent pretensions; and at eight years of age, having not yet acquired the commonest rudiments of knowledge, was placed under the care of a clergyman of the United Secession Church of Scotland. Here he seems to have evinced talents, and to have made great progress; and it speaks well, both for the master and the pupil, that, after passing eight years at the school, the latter still delighted to avail himself of his old preceptor's lessons, during those parts of the year in which he was not engaged in learning his profession in Edinburgh.

On finally leaving school, having shown a predilection for the medical profession, he was placed for a short time with a country surgeon; but, either disgusted with the disadvantages at that time inseparable from such arrangements, or for some other reason, and against the wishes of his parents, he left that situation, and led a desultory and almost an idle life from the age of sixteen to nineteen; years which, in the life of a youth of talent and imagination, leave little record save in the memory of the individual; years in which the mind begins to exert its powers, and a love of mental pleasures exists, more pure and delicious than all that later years have to bestow. The most useful part of any man's biography is exactly that relating to such years; but it is rarely to be come at, for no second person can indite it. The course of reading pursued, the daily companions and their characters, the customary division of time, the conversations, the designs cherished, the essays commenced, the blissful visions, occupying long days of holiday solitude; these are the general foundations of the future man, whom the world's business is soon to employ, and the world's difficulties are soon to perplex.

In this dreamy and unemployed period of his life, young Armstrong formed many visionary schemes; and his nascent ambition displayed itself in the desire which has deluded so many, and made so many wretched for life, of "going to London to seek employment in some literary occupation." This desire is peculiarly incidental to those young men who have enjoyed but few early advantages of education, but who possess talents and susceptibility. They feel their own power, and, tracing it to no particular care or culture, they doubtless somewhat over-estimate it. We think this tendency to extreme self-estimation, conjoined with a want of acquaintance with other men's proficiency, is visible in all the future progress of Dr. Armstrong. If, however, it now and then misleads, its entire absence, which a public education often effects, is much more prejudicial to the future efforts of the individual: a cold and hopeless indolence besets the mind; a bigoted admiration of certain men and certain opinions, and a timidity which forbids every independent exertion. To us, therefore, there is no part of Dr. Armstrong's early life more interesting than that in which he wandered about the neighbourhood of Sunderland; wrote fugitive pieces of poetry; and meditated a tragedy on the story of Boethius; a design to which he sometimes reverted, when immersed in the bustle and business of London, with a wish for that leisure which was incompatible with other wishes that had then risen up within his breast.

When a few years had been passed in this way, not with regular industry, but yet not fruitlessly, young Armstrong was enabled, chiefly by the economy and management of a most excellent mother, to go to Edinburgh, and study for a degree in medicine; and his gratitude to this admirable parent seems to have been fervent and durable. The number of young men sent to their studies in this manner in Edinburgh, and even in London, is, we apprehend, considerable; and we can never look upon the youthful, ardent, and hopeful countenances of the junior students at the commencement of each session, without our thoughts being carried to their several homes, where efforts are making, and sacrifices, of which young students are not always mindful,—and which give something of solemnity to the tacit engagements so boldly entered upon by their public teachers, in years which are to determine whether or not those sacrifices are to be made, and not a few parental anxieties to be endured, in vain. Like many a studious youth, Armstrong was compelled, by his narrow resources, rigidly to confine his studies to those prescribed as preliminary to taking a degree; and, whatever of temporary regret this might ooccasion him, he was perhaps indebted for his future professional celebrity to this necessity of restraining an attention which might otherwise have been too discursively employed. Medicine is a jealous science, and will only be courted for its own sake; rewarding with niggardly hand those followers who turn aside too often to the attractive fields of literature, or even to other and severer, or more exact and satisfactory, paths of enquiry.

At the time when Armstrong was an Edinburgh student, the chair of Medicine was filled by Dr. Gregory, whose masculine understanding, great eloquence, and the judgment with which he directed the attention of the student to the principles of his profession, were combined with what some have considered too great a disregard for the supposed novelties which were published in his later years. We confess ourselves to be inadequate judges of his merits; for we can never mention his name without the warmest feelings of gratitude for those never-to-be-forgotten lessons, of which we feel the value more as experience becomes more advanced. The wisdom, the manliness, the learning without pedantry, the scorn and contempt of quackery, and all the other recommendations of that great and accomplished teacher, contributed for a long period to keep up the dignity of an Edinburgh degree, and to maintain the proper rank of the physician.

There were, in our time, those students who were insensible to the elevated qualities of such a teacher, and who regarded him as a mere commentator on Cullen, and Cullen himself as little better than a dreamer. It does certainly excite our surprise to find that of all the eminent medical men with whom Edinburgh abounded in the years of Armstrong's studies there, the chief object of his admiration should have been, not Gregory, but Dr. Hamilton, the author of the book on Purgative Medicines. That Dr. Hamilton had the merit of shewing that purgative medicines might be safely and advantageously used in various forms of fever, and several other disorders in which their administration was in his time considered hurtful or dangerous, is willingly conceded. His precepts concerning the employment of this class of medicines are eminently judicious. His application of his purgative doctrine in his hospital practice was, however, indiscriminate; and attended in many cases, especially of fever, dysentery, and inflammatory diarrhœa, with such palpable fatality as none but a practitioner devoted to a single idea could possibly have overlooked. As a *teacher* of practice, in the course of his hospital duty, a regard for truth compels us to say, that he was little calculated to assist the learner: he was supercilious, never addressed a word of explanation to the students who followed him up and down stairs for months or years; and did all in his power, by low tones and a mystic deportment, to prevent their knowing what he deemed to be the actual state of the patient, or what he prescribed. Yet to some students, his compendious plan of medicine recommended itself very strongly; its simplicity was enchanting; it required no reflection; and to this day, in every province of England, the injudicious and habitual prescription of laxatives, or the violent and obstinate employment of drastic medicaments, daily proclaims the durability of his narrow doctrine and erroneous example.

Almost every boasted improvement in practical medicine proves, on examination, to be a mere resuscitation of some old practice which has been for a time neglected; and Dr. Hamilton's application of purgatives to fever is often alluded to as if before his time no such practice had been known; whereas, Baglivi, Borelli, and Sydenham, advocated such treatment, and, long before them, Aretæus, Galen, and even Hippocrates. The use of violent purgatives seems to have brought the practice into discredit, and the termination of some fevers by profuse perspirations must have induced occasional doubts of the propriety of endeavouring to relieve entirely by the bowels. The frequent occurrence of diarrhœa, without relief, in fevers of the most intractable character, must also have deterred judicious practitioners from wholly relying on intestinal evacuants:

and we cannot but think that the recommendation, in the first edition of Dr. Armstrong's work on fever, that seldom less than four or five alvine evacuations should be daily procured during the stage of excitement, was one of the axioms he had borrowed without reflection, rather than established by observation as salutary, or even not pernicious.

Dr. Armstrong took his degree in 1807, when only twenty-three years of age, after three winters' study, and with little previous medical education. He immediately removed to Bishopwearmouth, and commenced practice as a physician; living in lodgings, and being almost wholly dependent on success in his profession. Not long afterward, the application of Dr. Hamilton's purgative system proved of singular advantage to him. An affluent resident of a country town, and probably living the usual easy and indulgent life of affluent gentlemen in the provinces, had for two years been subject to occasional attacks of diarrhœa, and was cured by a mild course of laxatives, prescribed by Dr. Armstrong. Dr. Hamilton happened to pass through Sunderland in a day or two after the young physician had been consulted about this case, and, with a liberality which was, we believe, characteristic of him, declined seeing the patient and depriving his junior of the credit which he felt assured would be the result of the plan already adopted. The patient was cured, and, as he had reason to be, abundantly grateful to Dr. Armstrong, whose success at Sunderland seems to have been established in a great degree by his good offices. Dr. Armstrong remained five years in the north of England; and, when his early age is remembered, his success, which was very considerable, must be allowed to argue most favorably for his abilities, his perseverance, and his general character. In his twenty-eighth year, and when he had only been four years in practice, he was enabled to remove to a large house at Bishopwearmouth, and to keep his carriage. In the same year he married the daughter of Charles Spearman, Esq., of Thornley, near Durham. Thus at a time of life when few physicians have the comfort of being settled in practice, and fewer still any certain prospect of obtaining a competency, (a prospect which Dr. Baillie did not enjoy until after forty,) we find Dr. Armstrong in the possession of much provincial celebrity, with all the solid advantages arising out of it.

But Dr. Armstrong's mind was too active to be content with a limited sphere of duties, and his aspirations were unsatisfied with the mere fame of a country physician. He possessed little or no medical learning, but he had never been reminded of the want of it. He was a diligent observer of disease, and his observations appeared to himself to be both original and valuable. He therefore began to publish, and the reception of his writings by the public was for a time such as strongly to confirm these favourable views of himself. His papers in the ninth volume of the Edinburgh Medical and Surgical Journal, on Brain-fever from Intoxication, and on

Diseased Cervical Vertebræ, are characteristic of his powers of minute description, and of his love of detail; peculiarities which were equally observable in his conversation: they also exhibit him in the light of a careful and reflecting practitioner. His language, even in these his first compositions, is fluent and correct; but there is, as usually happens with unlettered men, a tinge of affectation observable in his various and not always very important references, including one to Paley's Natural Theology, to warrant the somewhat vague and superfluous announcement that "the great energies of nature are known to us only by their effects."

About the end of the year in which these papers appeared (1813) Dr. Armstrong published his work on Puerperal Fever, a work for which he always retained an author's partiality. The success of the practice which it recommended, in the particular epidemic on which it was founded, had been such as to associate its composition with gratifying recollections. In the epidemic in question, all the cases seem to have proceeded unfavorably, or even to have ended fatally, which were treated according to the opinions then prevalent, that the puerperal fever was a disease in which venesection was inadmissible. Dr. Armstrong had the merit of perceiving that the fever was combined with inflammation of the peritoneum, and that, in the early stage, free venesection and the exhibition of active purgatives were alone to be depended upon. It was observed by the critics of the day, that the purgatives appeared, according to his own statement, to have been as important to the cure as the venesection, or even of more consequence; and it is probable that bleeding was carried farther than necessary: the exhibition, also, of scruple or half-drachm doses of calomel was what, in his subsequent practice, Dr. Armstrong ceased to recommend. But it was doing no small service to practical medicine to point out, as Dr. Armstrong very forcibly did, that fever, whether puerperal or of any other kind, was generally, if not invariably, accompanied by or dependent upon some local inflammation, and that, in the early stage, free bleeding was eminently serviceable. To the somewhat unqualified manner in which Dr. Armstrong at this time expressed his opinions, may, we think, be ascribed the prevalence for a certain period of an error which spread rapidly and widely,—that of disregarding or forgetting the varying type of fevers in different years or seasons, and making that practice indiscriminate which was in reality only useful or safe in certain epidemics, required to be very cautiously followed in others, and in others was fatal. All who recollect the popular opinions and practice in England with respect to fever fifteen years ago, and have observed their gradual modification, will, we think, allow that this general recommendation, for which Dr. Armstrong was in some degree accountable, was followed until experience shewed its terrible disadvantages. Practitioners thought that a new light beamed upon them. Forgetful of Sydenham, whose qualities were asserted by many eulogists to exist again in Armstrong, they were carried away by Dr. Armstrong's disapproval of the nervous doctrines of fever, by his sneers at the "terrors of timorous minds," and at the "medical phantoms, debility and malignity." They joined him in stigmatizing all who forbore from indiscriminate bleedings, in puerperal or other fevers, as "ignorant" men, inadequate to the duties of the profession. They awoke to a new belief, consolatory with respect to a disease long considered intractable, that "no species of puerperal fever was actually incurable;" and they were charmed by the boldness of an original practitioner who set at naught "grave professors," rebelled against the "doctrines of the schools," and avowed his contempt for "the speculations of the closet."

In vain did Hoffmann, nearly fourscore years ago, point out, among the *errores medicorum,* this very fault: "secundus error," (says he, in his enumeration of them,) "isque ac primus gravis, ex quo velut ex fonte complures in medicinam et praxin potissimum derivantur errores, est, quod paucissimis cognitum sit, *quid vera sit experientia medica.* Omnes fere et singuli, etiam minus periti et idiotæ, ad hanc *tanquam ad asylum* et certitudinis fulcrum confugiunt, attamen re accuratius considerata *nil minus quam experientes sunt;* siquidem genuino sensu atque conceptu experientiæ destituti, *id credunt esse experientiam* quando *semel vel bis* faustam vel infelicem in certo morbo a sumpto medicamento annotarunt efficaciam, unde mox *sibi persuadent,* inhærere adversus talem morbum sanandum *certam remedio efficaciam,* et ea propter simili in casu protinus illud adhibere *non dubitant.*"

This error of coming to general conclusions from a small number of instances, and of laying down general rules on such a narrow foundation for all future time, was never more conspicuous than in Dr. Armstrong's work on Puerperal Fever; and it was combined with a vehement desire for distinction as a teacher, or rather as a dictator of medical opinions. As an account of a particular epidemic, the treatise would have been an admirable contribution to medical knowledge: it would have shewn that there were forms of that disorder in which life could only be saved by bleeding or by free purging, or the prompt combination of both measures. But this was too limited an office for a zealous and enthusiastic mind. The character of the epidemic was pronounced to be the true and immutable character of puerperal fever; and all evidence to the contrary unceremoniously put aside. Yet such evidence, and of undeniable authority, had been advanced. It had been shewn that there were epidemics in which all or most of the patients who were bled died; others in which only small bleedings seemed admissible, and purging seemed salutary; others in which bleeding was injurious, and the use of purges of doubtful propriety; others in which bleeding had been useless, and bark serviceable. Such testimony might, one would suppose, have suggested to a reflecting physician that of these various results there might be some explanation found in the various forms of a disease incidental to the puerperal state; that, for instance, there might possibly be a puerperal fever without inflammation; that when inflammation was present, the same structure might not always be inflamed; and other possibilities. The experience of future years, and the opportunity of examining cases after death, might have cleared up these difficulties, and have laid the foundation for views of puerperal fever more correct, and the basis of more correct and rational practice. But this was left for other observers.

The general favour with which Dr. Armstrong's writings were received seems after this time to have made him a frequent contributor to the medical journals. Communications of that description are not the proper subjects of criticism; as there are few writers who have not occasionally published hasty observations in such a form. Dr. Armstrong's all bear proofs of the same peculiar impression on the author's mind, that he was a discoverer. In one we are told, *in a note,* that bleeding in the recumbent posture is less likely to produce fainting than if the patient is standing or sitting up. In another we are assured, *in italics,* that the warm bath and mercurials are often very powerful in equalizing the circulation; and a communication in the eleventh volume of the Edinburgh Journal is devoted to announcing a new view of the pathology of nervous disorders; much of which had been already, for about thirty years, before the medical world, in a paper by Dr. Parry, in the Memoirs of the Medical Society of London; but of which Dr. Armstrong appears to have had no information. This want of information affords, indeed, a treacherous facility for making discoveries. Yet the observations in the short paper now alluded to are indicative of Dr. Armstrong's constant attention to disease,—of the interest he took in it; and the enlargement of Dr. Parry's theory which it contains, or rather we should say the theory it announces, is one which has since been much developed, and is pretty generally accepted; namely, that nervous affections are generally secondary, and connected with disturbed circulation, or with some functional or structural disorder in one of the three great cavities. A passage in his lecture on typhus, composed many years afterward, singularly exhibits the mental peculiarity to which we have alluded.

"It is a singular circumstance," he says, "that when I first settled in London, the current opinion among the profession was, that typhus fever originated *solely* in human contagion; and it is remarkable that it should have been reserved for me to discover that mistake in this metropolis. But the discovery, from what I before mentioned, was quite accidental, and I take no credit to myself for having made it; though, when I reflect upon it, it gives me great pleasure, because, whatever prejudice may exist in the profession, the discovery will make its way, the truth will triumph and prove useful to mankind."

If the medical profession of London did indeed, in 1818, ascribe typhous fever solely to human contagion, it was far behind the knowledge possessed by medical men in all other parts of this kingdom. The infatuation which could cherish the opposite opinion as a *discovery* would really be incredible if not so explicitly avowed. First we see Dr. Armstrong supposing the profession in London to entertain an erroneous notion, which he probably cherished himself, that typhus arose solely from human contagion; then taking up another notion, equally erroneous, that it arose solely from marsh effluvium; and proclaiming this last error a discovery, slowly making its way amidst the obstacles which envy and prejudice raised up against it, but to flourish in remote times, and reflect immortality on the original mind which conceived it.

Dr. Boott observes, in the account of Dr. Armstrong's medical opinions, appended to the biography, that those upon which Dr. Armstrong's fame will principally rest with posterity are the opinions connected with the subject of Fever, upon which he claims for his departed friend the merit of having entertained views more comprehensive, and at the same time more definite, than those generally held by the medical authorities in this country. The appearance of Dr. Armstrong's work on Typhus, in 1816, is thus spoken of:—

"This admirable work at once raised him to a very high eminence in his profession. It passed through three large editions in three years, and was received almost with acclamation by the medical public, not only in this country, but throughout America, where it obtained for him, from some of the most eminent professional men, the name of the modern Sydenham.

"It was characterized as a work abounding in judicious reflections, refined distinctions, and practical illustrations of the highest importance.

"In this treatise he fully demonstrated the efficacy of bloodletting in the early stage of typhus, and proved that the signs of debility and malignancy towards its close were, as in puerperal fever, in proportion to the degree and duration of the previous inflammation. He distinguished with admirable precision the different forms and stages of the disease, and established principles of practice on a rational and philosophical basis, which have for ever banished the doctrine of debility being from the first inherent in typhus fever. He substituted facts in the place of theory; restored observation to its just preeminence over preconception and conjecture; and by his clear discrimination of the different pathological characters of the varieties of the same disease, and of their distinct and appropriate treatment, has given a confidence to the mind of the practitioner which the specious simplicity of nosological definition, the false doctrine of inherent debility, and the consequent necessity of resorting to the use of stimulants, had and must ever have failed to produce. He instituted a precise but variable, for an indiscriminate and exclusive practice; made opposite agents, under different circumstances, contribute to the removal of the same malady; marked with distinctness the symptoms of its varieties, the indications of their origin, progress, and termination; shewed when and how far the active resources of art against venous congestion or inflammation may be safely applied,—in what manner they must be proportioned to the existing state, and when safety alone depended upon a reliance on the unassisted resources of nature." *Memoir*, p. 17.

And again:

"He has broken and scattered the fragments of that fantastic superstructure which the inventive genius of Dr. Cullen erected, and has unwound the charm which so long fettered the minds of the disciples of Dr. John Brown. The advocates of positive debility in specific fevers can never again prevail. It is indeed a reproach upon the judgment of the profession of the last generation, that the precepts and examples of Sydenham had made so feeble an impression on their minds. What that great man failed to do, has been, in part at least, accomplished by the equally simple but more comprehensive views of Dr. Armstrong; and the honours which have so justly been paid to the memory of the one, will hereafter be proportionably awarded to the other." *Med. Opinions*, v. I. p. 148.

These passages express what we believe to have been the very general opinion of the public, but more especially of the younger part of the profession, concerning the value of Dr. Armstrong's work on Fever, when it first appeared, and for some time afterward. Such also, it is sufficiently evident, was the internal impression of his own merits on the author's mind. Indeed, he could not refrain from speaking of himself in a strain somewhat similar to that of the second of the passages above quoted. He *believed* that he had banished, and for ever, some doctrine of debility; that he had been the first to substitute facts in the place of theory; that he was in short the Sydenham of his time, and, however insufficiently honoured during his life, would be looked back upon by the next generation as one who had been an almost solitary light amidst a sea of error. This agreeable conviction was the apparent result of the warm commendations poured out upon his book, for the style of the first edition is, in general, very moderate and judicious. But after this time his style gradually altered, until it became, in his lectures, discursive and faulty in a high degree. He gradually became accustomed to regard himself as a man who had discomfited the scholastic nosologists, and proved the theorists of the olden time to be mere speculators. A few years afterward we find him speaking of his innovations with pleasure, and boasting that he had "thrown off Cullen entirely." He looked back upon the practice in the Edinburgh Infirmary, save that of Hamilton, with contempt, as upon practice without principles; and he meditated a "*general* view of the nature and treatment of *acute and chronic* diseases." A somewhat voluminous writer himself, not to say prolix, his ambition was gratified by seeing his own books in the hands of every pupil, and all other reading was discouraged as a waste of time. "Some say," he observes in a letter to Dr. Boott, written in the fulness of his fame, "my lectures are not learned enough: but I shall adhere to my own observation and experience mainly; for that gives a singleness of opinion and a unity of practice which students require. They may read when they become practitioners. But then, perhaps, the less the better, except matters of fact. I have never yet met with a learned physician who was a good practitioner. At the bedside such men are lost in the conflict of authorities."

Day by day were precepts like these instilled into the willing ears of Dr. Armstrong's pupils; and, whatever merits it might possess, a school more remarkable for an illiberal depreciation of learning, and for an empirical practice, and for a thoughtless attachment to the words of a master, never existed. It is therefore not only fair, but an act of justice, to students, to the older masters, and to the profession generally, to give a brief consideration of the grounds of so much assumption.

Until after the commencement of the present century, the practice in fevers seems to have been thus far defective, that all the symptoms after the first few days, or certainly after the first fortnight, were ascribed to debility. If the practitioner was called in early, he pursued an antiphlogistic plan of treatment, gave an emetic, and gentle laxatives, but seldom bled; but if late, he feared to adopt even a rigid antiphlogistic diet; and in both cases the symptoms of the subsequent stages of the fever were treated by cordials and tonics; by bark, opium, wine, and warmth. We state the truth as nearly as we can attain to it, disregarding the extravagant declamation in which it has pleased some modern writers to indulge, and their exaggeration of the faults of the old system. The writings of Dr. Currie, who proved the safety of very free cold ablutions, and the work of Dr. Hamilton, in which the advantage of free purging was made equally evident, led to important amendments in the management of all febrile disorders. Dr. Clutterbuck seems to have been one of the first of the authors of that particular period to shew the benefit of bloodletting; and the experience of Dr. Mills, of Dublin, who took a less confined view of the seat of the phlogosis so often existing in fever than Dr. Clutterbuck, completely unsettled the then established practice. British practitioners within the tropics were about the same time led to the same conclusions, and the practice of venesection was gradually adventured by them in the fevers of the south of Europe, and afterward in our own climate; in which it had been already proved by Dr. Thomas Sutton to be beneficial, in a remittent fever frequently occurring among the troops. Dr. Sutton, indeed, is to be looked upon as the first of the modern British practitioners who advocated bleeding and a rigid antiphlogistic treatment of fever; by which he succeeded in reducing the mortality in fever from one in three, or one in five, to about one in twenty. Of his treatise, which was published at Canterbury, in 1806, the reader will find an account in the thirteenth volume of the Edinburgh Medical and Surgical Journal; and we think he will agree with us, that much of the merit so enthusiastically accorded to other modern authors, including Dr. Armstrong, is really due to Dr. Sutton. The great American physician Dr. Rush had practised the evacuating system in fevers, nearly twenty years before the date of Dr. Sutton's book; and his plan is said to have been received at first, in this country, with horror and incredulity. The cold affusion was adopted in the London Fever Institution in 1805; and in 1809 the plan of bleeding, and the use of the cold affusion and purging, were already fairly established in the larger towns, at least, of the empire.

Numerous notices of the treatment of fever by bloodletting, with or without calomel, occur in the Edinburgh Medical and Surgical Journal between 1806, the year in which Dr. Sutton's book appeared, and 1816, the year in which Dr. Armstrong published the first edition of his work on fever. Such was the treatment followed and described by Dr. Palloni, at Leghorn; by Dr. Beddoes; by Dr. Jackson; by Mr. Hooper; by Mr. Boyle, in Sicily; by Dr. Clarke and Mr. Burnett; by Dr. Irvine; by Mr. Muir, at Paisley; by Mr. Parsons, at Guadaloupe; by Dr. now Sir William Burnett, in the Mediterranean; by Dr. Wilson, at Plymouth; by Dr. Mills, in Dublin; by Dr. Nicholl, at Seringapatam; and by Mr. Allan, in the West Indies. Indeed, scarcely a volume of the journal is without some evidence of the utility of bleeding in fevers, and of purging, especially by calomel. During the same period, numerous continental physicians described the fevers observed in the seat of the wars which harassed Europe, and to which some of them gave the name of "pestis bellica;" and in which the same treatment was followed. We cannot, therefore, but think that Dr. Armstrong stated the case against bleeding too strongly when he said, in 1816, that it was "still the custom of many practitioners to pour in large quantities of wine indiscriminately throughout all the stages of the genuine typhus."

It is only shewing one example taken from innumerable ones of the fluctuations of medicine, when we add that this very practice of bloodletting, with more or less of discretion, is to be found in nearly every accredited English work on fever; that it is one of the things on which Sydenham chiefly relied in some or most of the epidemics which he described; and that the method of cure which he pronounces effectual to conquer most kinds of fevers, consists of "bleeding and purging;" the very parts of practice which, during the career of Dr. Armstrong, were by some of his admirers proclaimed as the triumphs of their great preceptor over the learning and the practical ignorance of ages. But Sydenham forbore, taught by experience, from repeated bleedings. So also, in the days immediately preceding Armstrong, Parr, in the London Medical Dictionary, and Cullen, in his Practice of Physic, were careful to direct their followers to the safe employment of a means which, if carried too far, was hurtful; and we are still of opinion that some of the most judicious rules for the management of our common continued fevers will be found by careful readers in works of that period; a period, consequently, which we think it no honour, and no proof of emancipation from ignorance, to deride.

The lessons of Celsus, which embodied and expressed the practical experience of the ablest physicians of antiquity, convey the same judicious rules:—*si vires sinunt,* sanguinem mittere *optimum* est; præcipueque, *si cum dolore* febris est: this may not comprehend the whole rule, but it is clear, and safe, as far as it goes, and betrays none of the timidity, or the want of practical discernment, wherewith the followers of Dr. Armstrong were so ready to charge the learned.

But it may seem to savour of pedantry that we thus go back to Celsus. The truth is, that a complete history of the method of cure in fevers would shew that few practitioners of any note have ever disregarded bleeding. Galen practised it boldly, and in various stages of fever, whenever the general symptoms rendered it desirable; and Van Swieten, who refers to Galen, approved of and followed the practice. Dr. Freind's second commentary on Hippocrates not only points out that the father of physic bled in severe fevers, but contains a case shewing that, in the early part of the last century, free bleedings were sometimes resorted to.* Dr. Mead (1751) praises bleeding in the beginning of all fevers. In 1773 we find Dr. W. Fordyce speaking strongly in favour of bleeding in fevers, and against stimulants.

Dr. Mason Good remarks of the practice of bleeding in fevers, that it has alternately lived and died away, been revived and again sunk into disrepute, for considerably upwards of three centuries; for proof of which he refers to various authors in the sixteenth century, in the seventeenth, and in the eighteenth. Let us turn, however, to still later authorities, and to general works on medicine, containing, it is presumeable, the prevalent modes of practice of the day. The rules laid down by Dr. Parr, in 1808, a year after Dr. Armstrong had taken his degree, are, as respects bleeding, no less judicious than as regards other parts of the treatment of fevers. As a *general* practice at the commencement of a fever, he stigmatizes bloodletting as highly improper. He condemns it when the patient is not in the prime of life, or when there is no topical inflammation. The reigning epidemic, the symptoms, the period of life, are, he says, to be considered. And this was said at a time when the revived treatment by bleeding was not quite assured. Of free purgatives he speaks more strongly, after Dr. Hamilton. He advises their bold employment so long as the discharges continue to be dark and offensive; but he acknowledges, what some more modern practitioners have too much forgotten, that fevers may greatly differ in different circumstances; and he should have added, not forgetful of Sydenham, (or even of Cullen, who places this consideration first in his list of circumstances which should govern bloodletting,) in different years, and in different seasons. If we also quote Dr. Cullen, some of our readers may think we refer to one seldom named as a practical authority. Yet, as a practical guide, this distinguished physician is generally judicious and safe. The means of diminishing the tension and tone of the arterial system in fevers are, he says, *bloodletting and purging*. But he adds, the employment of bloodletting requires much discernment and skill; and is to be governed by a consideration of the nature of the prevailing epidemic, the remote cause, the season and climate, the degree of phlogistic diathesis present, the period of the disease, the age, vigour, and plethoric state of the patient, &c. all of which seems to bespeak the sagacious practitioner, of whom it can do no man honour to speak disparagingly. Setting aside Dr. Armstrong's protestations against the *feeble* plans of his predecessors, and looking at his own manifold cautions, we can hardly see wherein he departed from these rules of Cullen.

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* Some of the English physicians, indeed, about this period, bled *profusely* in fevers: Dr. Dover, for instance; who quotes Boerhaave as following the same practice.

Our object in dwelling on this part of the labours of Dr. Armstrong is partly to vindicate some of his predecessors from unjust obloquy, and partly to enforce, what young practitioners may be usefully reminded of, this diversity of the character of different epidemics, and which demands a diverse modification or combination of remedial means. If about the beginning of the present century some of those fears of debility which have been so much the subject of scorn in later days did really prevail, and to excess, we doubt not that they arose from the visible bad effects of much depletion or rough purging in certain epidemics. Our conjecture on this particular receives strong support from that remarkable observation of John Hunter, published in 1792, that he remembered when practitioners uniformly bled in putrid fevers, but that signs of debility and want of success made them alter their practice.

The misfortune is, and the true point on which we ought to reap wisdom from these alternations of medical opinion on a very important piece of practice, that physicians have been almost always passing from one extreme to another: now lauding, and now shunning, evacuants; now dreading, and now deriding, debility. "During the greater part of the time in which I have practised medicine," says the judicious Dr. Baillie, (in 1819,) "physicians in general, and myself among that number, have, I believe, been too sparing in taking away blood in typhous fever. It was hardly ever directed to be taken away from the arm, and not often locally, except by the application of leeches to the head. Of late years, many physicians have gone into the opposite extreme, and have taken away blood too profusely. In the course of a few years, this remedy, like every other, will find its proper level." Amidst such extremes, the selection of truth is rendered difficult; but we think it must be admitted, from all past experience, varied as it is, that, in a great proportion of epidemics, many of the cases will bear, and be benefited by bleeding and other evacuations. Still, the remark of Dr. Alison, in a valuable dissertation prefixed to the Cyclopædia of Practical Medicine, is in all probability just, as regards the situation to which it particularly applies, and expresses what is always taking place in other situations,—that the fevers which prevailed between the years 1815 and 1820, (the years of Dr. Armstrong's early, but not of his best experience,) were more inflammatory, and more benefited by large bleedings, than those of recent years. To this we may very properly add, that, although a timely purgative often removes symptoms erroneously ascribed to debility, and the frequent employment of such a remedy during the course of a continued fever may even prevent the supervention of such appearances of debility, yet in some epidemics, with which most living practitioners must have had some acquaintance, and in which the intestinal mucous membrane is deeply implicated, the free use of purgatives is obviously only beneficial in certain periods of the disease. Another particular, of no small practical importance, has been observed by modern physicians: that patients labouring under fever, in their own ill-ventilated habitations, are not so well able to bear bleeding as those whose good fortune it is to be removed into the wards of a well-regulated hospital. The neglect of this circumstance has, we believe, often betrayed young practitioners, and others, called upon to practise in new situations, into very unsuccessful methods of treatment. Its possibility could not have escaped Dr. Armstrong's consideration: indeed, he remarks that, in persons confined to close ill-ventilated apartments, the inflammations attendant on typhus are generally of the subacute kind. It was pointed out in the cases occurring in the London House of Recovery so early as 1812, by Dr. Bateman; and we consider the circumstance as explanatory of some difference in the experience of town and country practitioners, with respect to the capability of bearing loss of blood in fever.

We entertain not the slightest wish to depreciate the real merits of Dr. Armstrong. Perhaps there never was a more careful and observant practitioner, one more sincerely anxious for the knowledge which observation could teach, or more desirous of relieving his patients from the severe maladies which were the particular objects of his study. The first edition of his work on Fever only here and there betrays a slight tendency to the declamatory excitement conspicuous in his later productions, and most so in his Lectures, the latest of his compositions. If his diligent powers of investigation had been aided by a calmer judgment; if he had come less hastily to conclusions; if he had more frequently compared his own experience with that of other observers; if he had read the older authors with more impartiality, or with more submissiveness; if he had not, in short, become inflamed with the idea of being the great reformer of medicine, he would have exhibited fewer contradictions in his opinions, and would have done much more than he ever performed for the advancement of practical medicine.

His work on Fever, although we confess it always appeared, and yet appears, to us to be rambling and immethodical, had the advantage of being the first popular production in which the new or revived practice,—the antiphlogistic practice,—was fully laid before the British reader; and Dr. Bateman, a most efficient authority in such a matter, pronounced it "one of the best treatises on Typhus that had ever appeared." His recommendation of bleeding, even to the extent to which he recommended it, was not new; but he added the recommendation of large, or what we should call excessive, doses of calomel. Full doses, as ten grains, had often been given in fever by other practitioners: Dr. Armstrong prescribed the repetition of such doses four or five times in twenty-four hours, combined with moderate doses of opium; or, avowedly following the practice of Dr. James Johnson in some tropical diseases, a single dose of a scruple or half a drachm. Such practice in fevers has, in this country, nearly fallen into complete desuetude: in fact, Dr. Armstrong himself abandoned it, as well as very free purging, except with many limitations; and thus gradually reverted to the practice of those whom he had stigmatized as haunted with fears of debility, but whose directions are not stronger concerning the danger of powerful means, when debility has come on in fever, than are his own. But he had the undoubted merit of placing the varieties of fever in a clearer light, and he described them minutely, accurately, and in intelligible language. He particularly elucidated the various degrees of congestion existing in fever; a subject on which his views are no longer considered, as they were at first rather considered to be by Dr. Bateman, hypothetical. He was unconscious, it would seem, that he was driven to admit debility as the cause of the congestion; which was hardly more than what previous authors had asserted of the typhoid form of fevers, although he limited its range within juster bounds, perhaps, than they, and avoided the mistake of considering debility as always present. The commencement of these congestive cases, without the shivering which he observed to be the precursor of fever with more excitement, led him to suppose the shivering to be connected with the excitement in the cases not congestive; a supposition that surely drew him in a line nearly parallel to the course of Cullen, which he so anxiously affected to shun. He also enforced, more impressively than had before been done, the important fact, already well known, and proved by many dissections, that, in the fatal cases of fever, inflammation was the common cause of death; and he dwelt more than others had done on the sub-acute or insidious forms of inflammation affecting various organs; applying to all inflammatory affections the division into acute, subacute, and chronic, which Corvisart had established in relation to inflammatory affections of the pericardium. In all this there was considerable merit, but not much originality.

His practical directions, generally speaking, are admirable; and his treatise found a readier way, than works recommending a similar practice had done, into the hands of country practitioners, and put an end to the custom, before discountenanced by many, of resorting to stimulants early in fever. For this not inconsiderable advantage, the public certainly appears to have been indebted to Dr. Armstrong. An opening to good practice in all the varieties of fever may, indeed, fairly be considered to have been made by his clear division of the disorder into simple, inflammatory, and congestive; divisions which seem to be based upon facts capable of verification at the bedside.

In his enumeration of the circumstances which he had observed in his subsequent attempts to ascertain the contagious or non-contagious character of typhous fever, or its communicability from one person to another, it is curious that he should omit all mention of a fact, not uncommonly observed, and which makes that contagious property, which he convinced himself had no existence, more probable than all the evidence which he adduces against his own belief: we mean the circumstance of servants leaving their places when affected with fever, and going home to their parents or friends, in whose houses fever soon after spreads; or of young persons coming to school from houses in the country, convalescent from fever, and of fever soon after affecting their bedfellows, or other schoolfellows, and of some of these being removed to their homes, and then of their brothers or sisters at home becoming similarly affected. We have witnessed such occurrences, when the distance of the places in which fever thus successively appeared excluded all probable presumption of a simultaneous malaria. We are well aware how much evidence of an opposite nature may be adduced, and how much we could ourselves adduce; but we think that the calm and full consideration of all facts of this kind should have led to the conviction that there were yet some circumstances unknown or unexplained, which might eventually reconcile apparent contradictions. Such consideration, it really appears to us, was what Dr. Armstrong was latterly rendered incapable of, partly from his excitable constitution, and partly from the unconscious bias given to his opinions, by his feelings respecting those who had taken different views. His admirers may feel reluctant to allow this explanation; but, if we reject it, it will be difficult to give Dr. Armstrong credit for that candour which we are not disposed to deny that he possessed, and that love of truth by which we really believe him to have been animated. Another explanation offers itself, in his unwillingness to admit for continued fever, in any circumstances, what he could not claim for remittent fever or intermittent fever; and one of the discoveries on which he considered his fame to rest was, that these were all modifications of one disease; a view, however, which had been taken by previous writers. The variety which he admitted to exist in these three modifications might have obviated, one would think, any invincible unwillingness to admit that the severest form of the three occasionally became a communicable disease; or even to admit the bare possibility of the same occasional communicability in the other forms,—that is, in the remittent, and even in the intermittent, forms of fever. This, we apprehend, would have been the philosophical method of investigating so great a question,—a question which we can by no means consider as yet set at rest.

Dr. Armstrong's descriptions of disease are faithful and graphic; and cannot be read, together with his observations on the treatment, without an impression on the reader's mind that he must have been a most watchful and excellent practitioner. If this was much doubted by his contemporaries, we are inclined to ascribe it to those declamatory habits which we shall find it our duty more particularly to speak of; and which led his followers to extremes that his own practical acuteness caused him to avoid; and reflected upon him that undeserved censure to which his kind biographer alludes (vol. I. p. 212,) of having been the "indiscriminate advocate of depletion." We think, also, that we see, in his directions for the treatment of a severe form of congestive fever, sufficient reason to doubt the general success of the plan he laid down for imitation. When "the extremities are cold, the respiration laborious, the pulse heavy and oppressed," we may be allowed to question the advantage to be derived from bloodletting, as a general measure; and the caution with which Dr. Armstrong surrounds this direction, and the allusion to the possible diminution of heat, increased weakness of pulse, more embarrassed breathing, and greater debility, clearly indicate those cases which, in his own practice at the Fever Hospital, were, we know, considered unfortunate illustrations of his views; and point to the source of much of the bad practice in fevers which was to be met with, in this island, about twelve or fifteen years ago. The practical error apparently arose out of too strong an attachment to his own theories; and, together with his apparent disregard of the diversities of epidemics, constituted the most serious of his faults as a practitioner and a teacher. His directions, also, respecting the administration of wine in certain stages of fever are loose and unsatisfactory, and not to be compared to the more exact rules laid down by Dr. Bateman. With these exceptions, his practical observations on fever are admirable, and such as his indiscreet followers too little attended to. It is impossible not to admire the indefatigable industry with which he prosecuted this subject to the end of his life, and when the practice in which he had become engaged was considerable enough to have excused him if he had desisted from all other labours.

Dr. Armstrong was encouraged by the successful appearance of the first edition of his work on typhus, to quit Sunderland, and to settle in London; where his first feelings, very natural to one neither rich in money or London connexions, are thus affectingly described by Dr. Boott.

"In October 1817 he resigned his situation as physician to the Sunderland Dispensary; and in February 1818, after placing his wife and his two children in lodgings in Durham, he repaired to London, with no other recommendation than that which his works and reputation afforded him.

"He took lodgings at No. 38, Great James street, Bedford row, where he resided several months alone. This was the most trying period of his life. All those domestic sympathies upon which he so much depended for happiness were far removed from him, and he felt as it were alone in the world, anxious about his present and uncertain of his future fortunes. He never, to the close of his life, courted general society, and had few inducements to mix in public amusements; for his tastes centered in his professional pursuits, and his enjoyments in the bosom of his family, and in the familiar society of a few personal friends. His sensibilities were acute, and his mind simple and discerning in its instincts and desires. He had left a society to which he was attached by the ties of gratitude; and in the oppressive solitude of his present situation he keenly felt the loss of his early friends, and became fully sensible of the hazard to which he had exposed the interests of his family. He has often told me that the loneliness of his situation at times overpowered him; and that so oppressive was the busy scene around him, in which he stood a stranger, uncared for and unknown, that he sometimes found relief in tears, and tried to drown the consciousness of sorrow, by seeking sleep in his darkened chamber at noon."

Within a year from this time, his prospects of practice were very much improved. He published his opinions on various practical subjects;—on Measles, Scarlet Fever, Consumption, Chronic Diseases, Sulphureous Waters, External and Internal Inflammation, Insanity, &c.—and his plain and unpretending manners secured him many friends. His fondness for his profession led him in his conversation, as in his writings, to dwell minutely upon common points of practice, on which, without offending the prejudices or alarming the pride of his hearers, he became a great authority; and he possessed what we believe is always found to be a substantial recommendation to success in medicine, an almost exclusive attachment to it. There was this peculiarity about his mode of expressing himself, that his earnest dwelling even upon matters taught in every elementary book, made the hearer believe the ideas were as original as he sincerely appeared to consider them. There are peculiarities in his work on Scarlet Fever, Measles, &c. which exhibit the source of this complacent dwelling on ideas which he conceived had not yet reached others, because they had only recently reached himself. His very preface shews that the sedateness of mind maintained throughout his treatise on Fever, had been disturbed by the praise he had received. He begins by declaring that *names* have governed or influenced the world in almost every age, and that an æra has arrived in the history of physic, when the vague conjectures of the most celebrated individuals must give place to the inferences of unbiassed observation. He speaks of the improvement of the medical art as one of the most important of passing circumstances, which will strike those who look back upon the actual time in which he was writing. He declares that experience and reason have gained a *signal triumph* over the *dogmas of the schools* and the prescriptions of speculative authorities. "Once," he says, "our libraries were crowded with Commentaries on the opinions of others, a state of literature which, when general, always marks the declining genius of a country; but now, instead of such servile employment, the press daily teems with the productions of those who possess that independence which prompts them to observe and to think for themselves." The preface containing these expressions is dated in November 1818, when Dr. Armstrong had begun to lecture in the Borough, and they are so plainly meant to refer to himself that we cannot help thinking they admit of explanation by a circumstance which we shall presently have to mention. The work to which they are prefixed is one which contains many practical observations of utility, that might most advantageously have been compressed into half the space they occupy; and the pages exhibit a few indications of that desire to be thought learned to which we have already alluded, and which was hardly consistent in so warm a contemner of "the schools." Among these are frequent and unnecessary references to works on general subjects. When Dr. Armstrong wishes to tell the reader that if skill is shewn in curing a distemper, wisdom is shewn in preventing it, he refers to William Penn's Fruits of Solitude in support of this not very paradoxical observation, and particularly directs the reader to "see a new edition, p. 52, London: printed for James Phillips, George yard, Lombard street;" this new edition being at that time five and twenty years old. When he would praise that book on the Constitutional Origin of Local Diseases, which Mr. Abernethy was wont to recommend to his own patients, he does so "in the language of Bacon." The obvious truth that debility disposes to disease, is asserted to be "as old as Celsus," and Celsus is referred to "excudebat Gulielmus Bell." The amenity of the ancient climate of this island is supported by a reference to a certain "History of the Decline and Fall of the Roman Empire, by Edward Gibbon, Esq. *of Dublin:* printed for Luke White, No. 86, Dame street." These trifles would not merit notice but for the derision with which Dr. Armstrong so often spoke of all learning.

A physician who removes from the provinces to London is like a man plunged into a deep lake, and is some time before he again rises to a level with visible things. It is mortifying, no doubt, to find the merits so cheerfully acknowledged in the country, lost amidst the more active talent and perhaps the wider range of acquirement of the metropolis; and without a good deal of confidence in a man's self, and certain pecuniary resources, the first years of a life so spent in London must necessarily be years of much anxiety. Within the sphere of our own acquaintance or reading, we can find no example of a rise so rapid as that of Dr. Armstrong from comparative obscurity to a large practice. He was already a distinguished London physician when he presented himself, as all graduates of other universities than Oxford and Cambridge are under the necessity of doing on attempting to practise in London, to the College of Physicians for examination and license to prescribe. Much to his own vexation, and not a little to the surprise of his admirers, he was rejected by the college. Dr. Boott thus speaks of this remarkable incident in the life of his friend:

> "He had, perhaps, undervalued the estimate which the Board of Examiners place on classical diction, and the alphabet of the profession; for this distinguished physician, who had received a diploma from the most efficient and most celebrated school of medicine in Great Britain, who had been in successful practice eleven years, and was the author of three of the most popular works which the medical press of this country had ever put forth, the fame of which was still sounding in the periodical journals of the day,—was rejected as incompetent to continue in the practice of his profession in London, and as undeserving the honour of having his name enrolled among the members of the College.
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> "This public stigma, of the justice and motives of which I leave others to judge, was not without its natural and perhaps salutary effects upon the sensitive mind of Dr. Armstrong. His nature was mild, but too dignified to submit to insult and unmerited wrong, which threatened injury to his own reputation, and ruin to the welfare of his family. He did not admit the necessity of any particular attention to his profession to qualify him for passing the usual examination the next year, as he was aware that the first rejection was generally the only one. But he felt roused to the due assertion of his own claims to respect; and from the impressions which this act of wanton power made upon him are to be ascribed much of that indignant tone which afterwards sounded in his lectures on scholastic institutions." *Memoir*, p. 30.

The evident impossibility of so respected a physician being ignorant of the practical part of his profession, added to the popular ignorance of the nature of the examinations at the college, caused this rejection to give Dr. Armstrong all the advantages of martyrdom. The governors of the Fever Institution, having a just reliance on his abilities and his humanity, rescinded a law which would have been fatal to his claims to be their physician, and elected him with a kind of triumph. The public looked upon him as a persecuted man. Many suspected the College of jealousy of his rising celebrity. The feelings of his pupils were often subsequently appealed to; the decision of their juvenile judgments was unanimously in favour of the popular teacher; and they were taught to speak contemptuously of colleges, and learning, and Latin. Yet to suppose that the examiners of the college would have rejected a physician already distinguished unless his answers had been peculiarly unsatisfactory, would be an absurdity. No dispassionate person can doubt that they must have been *compelled* to the rejection by some unwonted deficiency: and such deficiency, we apprehend, must have been made too glaring to be passed over. And although a man may practise physic and write upon it who has forgotten much of his anatomy, and almost all his Latin, we do not well see, so long as colleges affect to patronise either anatomical science or liberal learning, how they can consistently pass over an almost total ignorance of both. We presume there is not a physician to be found, however unpleasantly he may reflect on the politeness with which he was converted for a certain consideration into a licentiate, who will not acknowledge that his examination at the London college was at least sufficiently elementary and sufficiently courteous. We believe also that some classical acquirement is generally accepted and taken into the account by the examiners. The very eminence already attained by Dr. Armstrong must have prevented his being rejected on slight grounds, and have caused his examiners much to regret being obliged to incur the odium of his rejection. In short, nothing would ever have convinced us of the injustice of Dr. Armstrong's rejection, except the publication of the questions and answers; and this he never proceeded to.

Two important questions here present themselves, in which the honour of the examiners is somewhat concerned: whether, in the first place, the College of Physicians has not occasionally admitted men fully as unqualified in certain points as Dr. Armstrong? and, secondly, how had Dr. Armstrong himself contrived to pass the former ordeal of Edinburgh? As regards the licentiates, we think we could point out one or two whose Latin, unless they were inspired for the occasion, must have discomposed the dignified gravity of the learned president himself; but then it is to be presumed they were not so oblivious of their anatomy as to be caught in any of the common traps set in desperate cases to catch the unwary. The Edinburgh college demanded a very moderate share of Latin. It used even to be thought not quite safe, or quite etiquette, to speak it too well. Then in ten years Robertson's *Colloquia* had oozed out of the palms of the hands, and were not perhaps producible in London. Besides this, there was a very proper consideration, we believe, in Edinburgh, for those students who had been seen to be diligent throughout their curriculum; whose means were scanty; and to whom rejection would have brought ruin and despair. Thus, although an accomplished student went through a very difficult and comprehensive examination in Edinburgh, the less efficient candidate was let through more easily; and none were rejected save the notoriously indolent or the notoriously dissipated. Anatomy, too, was not one of the things for which Edinburgh was most famous. So that in ten years a graduate of Edinburgh, although that ten years might have made him a good practical physician, might very possibly have become defective in anatomy, and very far from eloquent in Latin. What the value of any such examinations was or is, let others judge. With the public it is well known that they avail nothing.

At all events, Dr. Armstrong's rejection did him no mischief, except in so far as it strengthened all his prejudices, and suggested divers indignant apostrophes touching academic learning, for the lectures of future years. Neither did it add to the authority of the college; as it afforded an opportunity to a portion of the public of setting it at naught, and dispersed the ideal supremacy which previously hedged it.

To us, however, it always appeared that there was both impropriety and puerility in the observations which Dr. Armstrong addressed to the young men attending his lectures when this unhappy recollection arose in his mind. Thus when, examining the origin of typhus, he says, many men believe it to be contagious "because they have been told so *at school or college*, precisely on the same principle that children take the assertions *of their fathers and mothers upon all subjects*. Now, as our fathers and forefathers of physic have often been mistaken," &c. And again, in the next paragraph, "the question whether typhus fever is contagious or is not contagious, cannot be decided *by any reference to black-lettered books*;" &c. All of which seems very flippant and pointless; for most men have a better reason for believing or disbelieving in contagion than having learnt so at school or college; not many children believe all that their fathers and mothers tell them; and we question whether even the oldest fellow of the college would seek for proofs of it in black letter. But all this delighted the young students. And when the lecturer wound up by an appeal to the sober judgment of those whom he was there to teach, exclaiming "Now, *I ask you once more*, how such things could by possibility happen if typhus were that contagious affection which *schools and colleges*, and which those *secondary intellects* who borrow their notions wholly from such authorities, would have us implicitly believe?"—the lecture room rang with acclamations, and the excited teacher felt like one before whose discoveries all old things were passing away.

As we have very unreservedly noticed these and other circumstances, but yet wholly without the wish to give an unfavourable colour to them, we think it but just to allow Dr. Boott to explain the causes which in his opinion led Dr. Armstrong to the eminent success which he obtained in London. He is speaking of the period immediately subsequent to Dr. Armstrong's appointment to the Fever Hospital.

> "He was now encouraged to indulge in favourable views of his future prospects. His family had joined him from the country, and he removed to a house in Southampton row. The celebrity of his writings had introduced him into some practice among a few members of the profession who had been impressed through them with a confidence in his talents; and the reputation he had acquired on the subject of fever, together with his early appointment to the Hospital of St. Pancras, soon led him to be considered as the highest authority upon typhus, a pre-eminence which he maintained to the close of his life. This general confidence in his experience and abilities was one of the most honourable and prolific sources of his prosperity, and it was shewn in the frequency of his being consulted by his medical brethren, in their own illness, or in that of the

members of their family. It has been said, and I believe with truth, that, during the eleven years he resided in London, he was called upon to attend more medical men than any other member of the profession. He owed his success in London to two causes, for no one had ever fewer adventitious aids to success, and the one reflected as much honour upon his talents as the other did upon his disposition. Those members of the general profession who had once experienced the benefit of his counsel and assistance, could seldom be induced to recommend any other physician, so strongly impressed were they with the simplicity, the originality and success of his views and practice: and those families who had once had an opportunity of feeling the effects of the gentleness and delicacy of his manner, could think of no other adviser. There are many persons in and out of the profession who will admit the truth of these remarks, and who will confess that the loss of this eminent man appeared to them irreparable. He had the faculty of communicating his ideas to others in the most easy and intelligible manner, and, from the fertile resources of his own mind, of throwing light upon the most obscure and involved cases. Those difficulties which embarrassed common minds seemed at once charmed away by the magic influence of his own; and his opinions were delivered with so much candour and perspicuity, that while others bowed before the superiority of his intelligence, they were instinctively impelled to place the fullest confidence in his skill and integrity, and to feel an irresistible affection for his character as the man, blending with their admiration of his talents as the physician. His manners were simple almost to a fault, and were at first forbidding, from the absence of every thing like an attempt at effect; but no sooner did he enter upon the consideration of a case, than it was apparent he was completely absorbed by it. His seeming reserve at once gave way to a visible feeling of deep and tender interest in the welfare of his patient, who felt satisfied that he was in the hands of an amiable and a sagacious man, to whom he might confidently intrust himself." *Memoir*, p. 32.

These highly favourable representations of the impression produced by Dr. Armstrong in private practice are supported by some interesting anecdotes, and, whatever may be thought of his originality or judgment as an author, no doubt can remain on the reader's mind that he was a most attentive and sagacious practitioner. In the years 1820 and 1821, Dr. Boott attended his practice in the Fever Hospital, and he bears strong and, we doubt not, just testimony to Dr. Armstrong's conscientious discharge of his duty in that admirable establishment; to his humanity, urbanity, and punctuality. No situation could be more interesting to a physician whose attention had already been so much occupied with fever, and the daily experience of such an institution would at once shew him the limits of his former experience, and the many yet undescribed varieties of continued fever. In 1821, Dr. Armstrong first became a lecturer, in the school established by the late distinguished Mr. Grainger; and his fluency, animation, and the general kindness of his manners, soon ensured him a high degree of popularity among the students. Of his possession of all the higher qualities of a lecturer, his biographer speaks in language approaching to enthusiasm. We feel it incumbent upon us to quote a part of his description:—

> "He united in his mind, with the elements of a sound judgment, two opposite and often irreconcilable powers; that of discerning particulars and of combining them together, so as to see in one glance their origin, connexion, and effects. He thus acquired practical knowledge from his observation of the phenomena of disease, which he freely communicated to others from the learned and well arranged volume of his memory, and he was possessed of an intrepidity of character which made him fearlessly assert whatever he felt to be true. Though of a mild and pliant nature in the hallowed seclusion of domestic society, he was, as a public teacher, loud in his denunciations of what he considered to be erroneous in the maxims and practice of his profession; and if at times he seemed to sound too indignant a tone of remonstrance against the prejudices of the schools, much of the fervour of his language and feelings is to be ascribed to the indignation which he felt at the conduct of one of these bodies towards himself.
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> "The effect his lectures produced was electric. The energy of his manner, the fine intonations of his voice, the facility and correctness of his diction, the strain of impassioned eloquence which often burst from him, riveted the attention, and made even those who could not entirely adopt or appreciate his opinions, sensible that he was uttering the deep convictions of his mind; and there was so much of chaste and often of pathetic feeling, so much of the refined sensibilities of his nature blended with his discourse, that those who were compelled to admire his talents felt confidence in his virtues; and while they revered the Professor, they loved the man." *Memoir*, p. 58.

Such praise convinces us more strongly of Dr. Boott's admiration of Dr. Armstrong, than of Dr. Armstrong's possessing exactly the qualities desirable in a teacher of practical medicine. It impresses us with a belief of the irrelevancy of the topics, and the unrestrained declamation, which we have often been told were occasionally touched upon and indulged in; and when Dr. Boott adds that Dr. Armstrong's lectures "were not pronounced in the formal diction of arbitrary and systematic terms," but were "the views of a master-mind, which borrowed no aid from without;" and when he says that Dr. Armstrong "divested the science of medicine of the meretricious allurements it had long worn, and dressed it in artless guise;" and that he was "deeply impressed with the defects of the scholastic mode of education which he had early acquired;" our thoughts cannot but again revert to the noble simplicity, the profound and elegant learning, the unaffected originality, and the manly and appropriate eloquence of him who was the teacher of medicine in Edinburgh when Armstrong was a student—and we must confess that Dr. Armstrong does not gain by the comparison with one whose scholastic method he so unhesitatingly condemned.

It is not that we are insensible to the peculiar merits of Dr. Armstrong's lectures, as exemplified in the spirited transcript of them edited by Mr. Rix, and the fidelity of which is unquestionable.

We admire, in almost every page, the precise and cautious practical directions; the striking allusions to instructive cases; the urgent recommendations of the pupils to be careful, to be diligent in observation, to avoid hurry and heedlessness, to be attentive to the poor. Nothing can be more excellent than the rules laid down for all the parts of the delicate management of fever patients; nothing more judicious than the general instructions arising out of the lecturer's perfect knowledge of mankind, and his perfect discrimination of the relative characteristics of the upper, the middle, and the poorer classes. His prudent admonitions respecting the employment of some of the heroic remedies, as mercury, arsenic, and colchicum, attest his powers of observation and his practical merits. We do not quarrel even with a few eccentricities, such as a depreciation of what are called saline medicines, which are so universally refreshing to patients in febrile disorders; and an unaccountable prejudice against the term *constitutional,* to which Dr. Armstrong was unable or unwilling to attach any definite meaning. But there is still much, very much, in the lectures, of which we cannot but most strongly disapprove. There is a frequent affectation of simplicity, or of what Dr. Boott has indulgently called dressing medicine in artless guise; of which the rejection of the term pericardium, and the substitution of the inelegance of "bag of the heart" may be taken as an example. This was done, no doubt, to avoid a word derived from two Greek words, taught "in schools and colleges." Yet to avoid this learning, some inaccuracy was incurred. The fantasy of putting down ancient learning, indeed, leads Dr. Armstrong into continual rhapsodies, of small benefit to his students, and sometimes (to us at least) quite incomprehensible. Would any one believe, for instance, that the following passage is part of thirty lines of a like description in a section of not more than forty-two lines, devoted to the diagnosis of cystitis from hysteritis.

> "Foresight is second sight. No species of knowledge is so important as that foresight of practitioners which enables them to prevent diseases. But another kind of foresight which a medical man should daily endeavour to acquire, consists of a power of foretelling events; a power equal to that which our poet gives to the wizard, who exclaims—
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> 'Tis the sunset of life gives me mystical lore,
> And coming events cast their shadows before:'—
>
> it is allowable in a poet to speak of 'mystical lore,' but it will not do in physic. We have enough of art and mystery and so on in an act of Parliament; but common sense despises and rejects all the mummery which exists about art and mystery in schools and colleges and articles of apprenticeship. No species of human knowledge is mystical: we ought to have no mystical lore; for knowledge is only mystical in order to conceal something wrong. Johnson has said, "No man can be great without labour;" &c.

We do not know what the young gentlemen in the Borough thought of these fine sentences, but if this be common sense, give us the despised mummery of schools and colleges.

Our readers might think it an ill-natured task if we were to dwell upon the innumerable quotations introduced into the lectures, from every book, apparently, that Dr. Armstrong ever read in his life; and we shall only remark that they are generally useless and inapplicable to his subject, and sometimes not understood by himself; as must always happen when a lecturer is too anxious to shew his reading. How inconsistent does such anxiety appear with a professed contempt for learning! Not less inconsistent are Dr. Armstrong's frequent denunciations of popular physicians, and of men in large practice; when his own heart was swelling with desire for that very popularity and that very practice.

Unless we entirely mistake the feeling which exists throughout our liberal profession, there are not four names more honoured than those of Mead, of Heberden, of Cullen, and of Baillie. Extensive acquirements, princely liberality, the most enlarged philanthropy, the utmost practical knowledge, were in different degrees united in these distinguished men, and to mention them makes every lover of his profession love it the more. For these great names, however, amidst many declamatory passages, Dr. Armstrong could not spare a word of praise. Whilst he allowed himself to be carried away from his subject in praise of General Washington or Miss Edgeworth, or the author of Waverley, he can only allude to Mead as "a learned man and an honest man, though not a man of much talent, for men of original minds never waste their time in perusing books of old times." Heberden, he says, was "a very superficial observer of nature," an opinion which could not easily be matched for its injustice. Again, "Heberden was a very popular physician in London; but his literary productions will soon be forgotten"—and then, with a fine flourish,—"they will be swept away by time, as wrecks from the shore by a springtide." Surely Dr. Armstrong had never read Heberden's Commentaries; or perhaps the circumstance of their being written in Latin prepossessed him against a writer, of whom, if it had only been for his minute and accurate observation of disease at the bedside, Dr. Armstrong ought to have spoken with more respect.

Dr. Baillie fares a little better; his quiet demeanour in a sick room is mentioned in terms of commendation, and his moral character extolled; but his practical merits are entirely passed over. It is, however, upon the devoted head of Cullen that Dr. Armstrong pours out all his sarcasm and all his contempt;—upon Cullen, the clearness, fidelity, and elegance of whose descriptions of disease have attracted the admiration of scholars, and won the grateful praise of some of the most eminent physicians of the last eighty years. If Dr. Armstrong mentions an instance in which he himself made a mistake, he adds, "this was the consequence of my reliance on the accuracy of Cullen's definitions. I beg therefore that you will be upon your guard against all big-wigs," &c. &c. In another place he indulges his humour after this fashion:

> "You may have seen a dog in a wheel turning a spit on which a leg of mutton is roasting. Now, the nosological practitioners and writers exactly resemble this dog. No one has done so much mischief with respect to the profession of physic as Cullen has; and it is my amazement to know that his absurd system yet obtains in medical examinations. No man at all versed in modern pathology attends to such a system of crudities and errors. It obtains only in the shades of men's closets, or in the cloistered walls of schools and colleges. But the rising generation will, I trust, put an end to all such lingo and legerdemain."

It would be difficult, in the whole range of medical vituperation, to adduce more groundless accusations, couched in more inelegant language? What could be expected of young medical men, accustomed to hear such ungenerous criticism from the lips of their teacher? what but self-conceit the most ludicrous, based upon ignorance the most profound?

Perhaps we look back with too much respect to Edinburgh. We well remember the late Dr. Duncan telling us, in his careful clinical lessons, how best to investigate the cases of our patients; and, alluding to their loquacity, counselling us to let them talk without too much interruption, to hear them patiently, and to question them minutely, gathering the essential facts as best we could. Dr. Armstrong, who despises these scholastic phrases, speaks with more vivacity. "If any of you," he says to his admiring pupils, "be tired of my minuteness, and wish to practise medicine boldly, the best way is to carry a plaster about with you, in your waistcoat pocket, and, whenever a patient is complaining, you have nothing to do, but, without asking any questions, to clap this plaster on the ailing part, and prescribe fried eggs and bacon." We have heard something of, and read something from, the Gregories of Edinburgh, on the qualifications of a physician; but Dr. Armstrong defines them with more originality. To make a medical man, he observes, requires, "in the second place, experience: not such experience as a dog gets in a wheel by turning a spit to roast a leg of mutton, nor such experience as a horse gets by following the same daily round in a mill; but experience which is," &c. We had idly imagined that there *was* such a thing as a gouty *diathesis*, or a disposition in certain constitutions to gouty forms of inflammation: Dr. Armstrong not only doubts this, which he had a perfect right to do, but thus expresses his doubts to the ingenuous youths around him: "But what is this something?" *(gouty diathesis.)* "Is it a goblin dancing about the body? It is a phantom, a medical phantom, which haunts schools and colleges," *(still schools and colleges!)* "and, entering the closets of big-wigs, plays all sorts of pranks in their imaginations. It is mere nonsense; stuff, such as dreams are made of:" thus closing a piece of unmeaning declamation with an unapt quotation, and all in triumph over schools and colleges. "I never met," he says in another lecture, "with a learned physician—I mean a man of black-letter learning," (still *black-letter!)* "who did study the phenomena of nature." And again, "I will hack and hew this great tree of nosology, till I bring trunk and branch to the earth." "Look," he says, "into the most popular work on the subject,"—and to what work does the reader think the hearer was referred?—"look to the work of *Dr. Thomas!* It is any thing, every thing, or nothing!" Dr. Armstrong not only declares that "the symptoms, pathology, and practice laid down in that book are current in this country;" but, lapsing into his favourite notions, "current in our schools and colleges;" and he winds up this extraordinary charge with Pope's couplet in allusion to the insincerity of Addison.

But we arrest our pen. We leave unquoted scores of passages equally exceptionable, and exhibiting every variety of fault that could beset a teacher, from vapid common-place to something very much like raving: as, for instance, when Dr. Armstrong leaps from contagion to the holy alliance. We feel it an imperative duty to notice such harmful, vicious modes of affecting the inexperienced minds of students, and of protesting against their being held up for imitation, or as worthy to be admired. It is not by pandering to the ignorance and prejudice of half-taught young men, that any medical school, or any teacher, can attain a permanent celebrity; and we do but justice to the most eminent living lecturers of London, when we say that we believe none of them follow such methods, or feel that lively horror of academical modes of education, or of schools and colleges, or even of black-letter, which Dr. Armstrong had cherished until it seems to have become a disease.

In four years from the commencement of his lectures, Dr. Armstrong had succeeded in obtaining a great share of practice. "I had left him," says Dr. Boott, "in 1821, struggling into notice, but still in some degree doubtful of the propriety of the step he had taken in removing to London; and, on my return from Paris, in the summer of 1825, I found him in the full enjoyment of fame and prosperity." In 1822 he had printed a paper in the Medical Intelligencer, conducted by his friend Mr. Haden, "On the Origin, Nature, and Prevention of Typhus Fever," in which he materially modified his original views; and another "On the Utility of Opium in certain Inflammatory Disorders;" the object of which was to shew its utility, in free doses, in acute and subacute inflammatory diseases. The employment of smaller doses of opium conjoined with calomel had been previously recommended by Dr. Hamilton, of Lynn, and followed with much advantage, and more generally, we think, than the plan of Dr. Armstrong has been.

In 1826, Dr. Armstrong began to lecture in Little Dean street, Soho, continuing also his lectures in the Borough; but this double occupation was abandoned in 1827, and his labours were then wholly devoted to his increasing practice, and to lecturing in his original Borough School. Indeed, his attempting the singular labour of lecturing twice a day, in different and remote schools, was far from prudent, especially as he had not gone thus far in his ardent and laborious career without some warnings that the machine was going too fast. Three years previously, after an attack of dysentery, he remained for some time (he says, in one of his letters to Dr. Boott,) affected with a daily dread of sudden death, and had one or two severe attacks of giddiness. He speaks, in his lectures, of habitual evening fever supervening on slight excitements.

Until December, 1828, however, he went on in a constant course of exertion; visiting numerous patients, and each day exhausted by his occupations. Still he was desirous of publishing a long projected work on Chronic Diseases, and he completed some fasciculi of Morbid Anatomy of the Stomach, Bowels, and Liver; a work of which the publication was commenced amidst the pressure of other engagements, and at length interrupted by his failing health.

The premature conclusion of this active and useful life is truly melancholy. We contemplate the gradual elevation of an aspiring man with interest; and, when we have watched him to the summit of the steep where fame's proud temple shines, he vanishes like a dream. To be born; to live some years of youth in ignorance; to feel the mind lighted up with knowledge and warmed by ambition, as manhood approaches; to enter on the great struggle for existence; to succeed partially; to see afar off the truths which life is too short to allow us to reach; to lay schemes, all unmindful of this narrow term, and in the midst of these schemes to die;—of how many medical men has such been the sad compendious history! Of all the struggles and pains which afflicted them, of all the hopes by which they were cheered; the dreams they cherished, and the fears which haunted them; nothing remains when death has removed them. The whole of life, which once appeared a voluminous scroll, is compressed into a short record of what good was pursued, and what useful ends were effected.

Dr. Boott has, we feel assured, very faithfully given us a description of the opinion he was enabled to form of Dr. Armstrong, in consequence of the intimate friendship subsisting between them. But he has either thought it a part of a biographer's office to conceal every trait not positively deserving of praise, and thus to compose rather a eulogium than a biography, or he was unacquainted with peculiarities which to others were well known, and which help to illustrate a character apparently not easy to be understood, and concerning which very opposite opinions prevailed. By those who were in habits of intimacy with Dr. Armstrong in his latter years, when he had surmounted the difficulties which have overwhelmed so many aspirants for professional success, and when his receipts were very considerable, it was perceived with sorrowful surprise that the smallest deficiency in the amount received in any one month made him prone to despond, and to indulge in a morbid apprehension that he was destined to be the victim of extensive professional jealousy. A professed, and we believe a sincere reformer, he beheld with little pleasure new schools arising in which new methods of teaching were to be followed, and he prognosticated their failure. The lectures of men many years his juniors, and who never affected to rival his fame, gave him an uneasiness which he could not refrain from exhibiting. He was still governed by an ambition of which it must be allowed that the objects were by no means unworthy, but which was in itself too restless for his own happiness. Even when the disease which proved fatal to him had begun to shew itself in his appearance and countenance, his mind was busy with the plans of future years. He meditated a removal to the west end of the town, and, in about ten years more, he considered that he should probably be rich enough to seek a seat in parliament, where he avowed his intention of proposing some of the medical reforms which no one then dreamed would be sooner accomplished. The tranquillity of his manner whilst detailing these plans was remarkably in contrast with the scope of his aspirations; and, now that death has interrupted all his earthly hopes, a vivid impression of his appearance and conversation remains in the recollection of those who heard him, which nothing can efface. Yet this continual desire to be the first man in his profession, the impatience it created of the obstacles which arose out of his deficient primary education, the groundless but tormenting ideas which always seem to have haunted him of the uncertain tenure of his practice and his popularity, and his extreme openness to every exciting impression, little fitted him for the daily toils and collisions of such a whirlpool of intellectual struggles as London. With a more patient temperament, and in a more limited scene, and with a more chastened ambition, his useful labours might perhaps have been calmly reviewed by himself, and even prolonged many years.

Among the singular opinions which he had adopted was one opposed to the general and well-founded notion prevailing in this climate, that free exposure to cold air when the body is in a state of inaction exposes to the chances of cold and cough. This notion Dr. Armstrong considered as a mere prejudice, and fit to be exploded. We were aware of this peculiarity; and we observe that Dr. Boott mentions exposure to the air in all weathers in his carriage with the windows down, and leaving off flannel, among the suspected causes of a cough which first excited any uneasiness in the minds of his friends. Physicians are so prone to fancies of this kind that one cannot wonder to find unprofessional people duped by the most extravagant assertions of pretenders: but surely it is a reproach to medical men to be much divided respecting the common influences of external objects on human health. With some interruptions, he continued to lecture; and, with the usual infatuation of the consumptive, felt no anxiety either on account of his cough or his debility; early and warning symptoms, which his acute observation would not have passed over in any of his patients. The remainder of his life was but a continual struggle between an ardent and unyielding mind and a remorseless malady. From occasional excursions into the country he generally returned refreshed, and desirous of resuming all the duties which he was again and again compelled to relinquish, until he at length felt that he must wholly desist from them. Often as we observe medical men exhibiting the same self-delusion as others, when actually sinking under phthisis pulmonalis, suspicions, one would suppose, must now and then present themselves, that all life's scenes are drawing to a termination. It is difficult, before age has brought some indifference to worldly pursuits, to accept the signal which shews us that we must retire: every hope, however frail, is willingly received,—every little amendment renews those sanguine expectations of returning health and strength and activity which are never to be realised. Restless nights, languid days, feverish evenings, hours unoccupied, a wasting frame, the intermission of all pursuits, even these preludes to more complete death, do not seem to interpose themselves strongly between the patient's hopes and the busy world, with which all but himself plainly see that he has done for ever.

After several retreats into the country, however, Dr. Armstrong for a time lost hope, and for the first time expressed an apprehension that he was consumptive: but the country air again revived his spirits, and he again felt assured that he should recover. This was in May, 1829. A single week in town brought back his debility, and it was with great reluctance that he left his summer course of lectures unfinished, devolving the task of its completion on Dr. Boott. Two days spent at Richmond dissipated the gloom that had been gathering round him, and he proceeded to Worthing with cheerful expectations, which, whilst able to enjoy the refreshing breezes from the sea, he for awhile continued to indulge. He then began to believe that his complaint was chronic pleurisy, and nothing was more unwelcome to him than were the visits of his medical friends. He represented that their calls excited him: probably he perceived that their words or their countenances were opposed to the wishes he was so unwilling to abandon. He confessed, indeed, after a visit paid him by Dr. Boott and Dr. Clark, that he was quite satisfied they both thought his case hopeless, and saw through their evasions of his questions on that point; but he added, that such a conclusion was by no means warranted by the symptoms.

Finding the sea-air too keen for him, he removed to the neighbourhood of Dorking, early in August. Daily rides and walks in a beautiful country so animated and revived him that, in September, he reported himself "better, and determined to be quite well this day five weeks." Within a fortnight, when seen by Dr. Boott, he spoke of his own case as hopeless, and particularly adverted to a symptom, which he called the *metallic tinkling* of Laennec; applying that term to a sound connected with his own respiration, and which he said was always present to his ear: he compared it to the "faint vibrations of air caused by the gentle stroke of the hammer of a silver bell." He said it was "a death-watch forewarning him of his doom;" and, with much composure, gave Dr. Boott several directions to be attended to after his death. Yet, with an inconsistency, affecting in such circumstances, he spoke with pleasure, two days afterward, of returning to his London practice, and encountering all its anxieties and fatigues. He revived a little, paid a short visit to the north of England, and then, worn and emaciated as he was by long illness, and hovering on the brink of the grave, he actually did resume his practice, although in less than three weeks he again gave it up, never to resume it again. There is something so remarkable and at the same time so painfully interesting in this, the closing scene of his life, that we must extract it from the many details of his long decline which Dr. Boott has with so much feeling related:

> —"he returned to London on the 1st of November, (1829,) broken in spirit and fast fading away.
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> "It was most affecting to witness the persevering but ineffectual efforts he made to rally his sinking energies, and to enter once more upon practice. His mind seemed to infuse vigour into his wasted and enfeebled frame, and for two or three weeks he was much occupied in visiting patients, in and for a distance of several miles from town. But he came home always in a state of great exhaustion, and it was painful to observe his instinctive promptness to attend to the calls of duty, blended with the incapacity of exerting himself without greatly aggravating his sufferings. He could not be persuaded to abandon all thoughts of his profession; and it seemed a relief to him to feel that he was yet capable in some degree of being useful to his family.
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> "On the 19th he sent an urgent message to me, in the evening. I found him sitting in a corner of his drawing-room, remote from the fire. He told me that he had taken a warm bath, and that he had discovered while in it a fracture of one of his ribs; and he seemed wholly absorbed with the idea that this neglected injury was the origin of his sufferings. The suspicion of this injury, which was entirely groundless, prevailed for a short time; so that he became fearful of making any unnecessary exertion. A few days after this he declined seeing more patients; and, after some feeble attempts to rally himself by exercise in his carriage, and taking short walks on Highgate Hill, he took to bed.
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> "The last day he rose from it was the 1st of December. I visited him the next morning in his chamber, and he said that he should never leave it. He was in a state of perfect composure of mind, and fully resigned to his fate. On the 3d he told me he might live ten days; that he had done all he could to combat successfully against the disease under which he laboured, but that it had been in vain, and there now remained but one duty more, and that was to rally all life's energies to die."

Those who have ever watched a relative or a friend slow sinking under the oppressions of consumption, whilst yet life was in its prime, have most probably witnessed scenes not unlike those on which Dr. Boott has dwelt with all the earnestness of friendly affection. The mind, calm and detached from all that ruffled it in the world, attains a rapture of repose before death; and, under the slight excitement generally present, the tongue gives utterance to reflections so pure and beautiful, so clear and unworldly, that they seem oracular and sacred. The description of the last days of Dr. Armstrong, whose life was exactly prolonged to the ten days he had spoken of as possible to him, is deeply interesting; and the portraiture of his private and domestic character, which was most simple and engaging, and untinged with any taint of the fashionable affectations that so much disfigure the medical character, is such as no one can read without feeling the vain and common regret that so affectionate a husband, so good a father, so kind a friend, and so benevolent a physician, should so soon have been taken from those who looked up to and relied upon him.

Not many days before his death, the stethoscope was applied to his chest by Dr. Thomas Davies, and the precise accuracy of the diagnosis was verified by an examination after his decease. A large tubercular excavation occupied the upper third of the left lung, capable of containing from twelve to sixteen ounces of fluid; and the remaining portion of the lung was filled with tubercles in all their stages. The upper half of the right lung also was filled with tubercles, accumulated in rounded masses, the interval between the masses being tolerably healthy: its apex contained an excavation capable of holding a small-sized walnut. Disease so extensive had probably been long in progress, and must have affected not his bodily health only, but in some degree that of his mind, so as, in our opinion, to account for some of the peculiarities to which we have, not disrespectfully we hope, pointed.

The pious office of preserving and publishing his Lectures has been performed by Mr. Rix, with singular ability. We respect even the *enthusiasm* of a student for his preceptor; and, if we have noticed passages with disapprobation, which might have been left out without detriment to the lectures, we can easily comprehend Mr. Rix's motives for abstaining from the mutilation; and, with these defects, we cheerfully acknowledge that the volume is still extremely valuable.

As respects Dr. Boott's elaborate work, we have limited our remarks to the Memoir of Dr. Armstrong, and to that part of the first volume which relates to Dr. Armstrong's views of the fever of this country. The remainder of the volume is taken up with chapters full of information relating to the yellow fever, to the fevers of the southern, midland, and eastern states of North America, and to the fevers of the city and state of New York. The second volume is devoted to the consideration of the plague, as it has appeared in Egypt, Syria, Holland, France, and London; and of the fevers of Italy, of the Mediterranean, of Paris, and of Great Britain. The section relative to the fevers of Paris comprehends an able analysis of the work of M. Louis; and every section contains facts and observations, to which few medical readers can refer without instruction. The views which they are induced to support form a distinct matter of enquiry from that which has occupied our attention, and which has rather related to the personal character and labours of Dr. Armstrong.

Our opinion of Dr. Armstrong, in all the relations of private life, after reading Dr. Boott's affecting memoir, is such as no language, except that of unfeigned respect and admiration, could express. Our opinion of him as a theoretical and practical physician may be gathered from our previous observations. If we have, in some respects, taken a less flattering view of his qualifications than his biographer has done, it has been with regret that we have found ourselves compelled to dissent from one whose account of his deceased friend, and of that friend's labours, is the evident production of an accomplished physician, whose sensibility, learning, and opportunities, peculiarly fitted him for the task; and whose friendly partialities, if such they be, do him no dishonour. If we did not believe that the example of Dr. Armstrong, and some of the lessons which he taught so eloquently, had produced unfavourable effects on the practitioners and students of his time, had in some degree lowered the standard of attainment which should ever be, and generally is, associated with eminence, had induced an undue disregard even for medical learning, and tended to justify to his imitators a contented reliance on mere personal experience, we should not have felt ourselves called upon to criticise his life and writings.

The impression we entertain is, still, that he was justly eminent as a practitioner, and more than commonly qualified by the habits of his mind, and by his disposition, for exercising the patient and unostentatious duties of his profession; that he was diligent, observing, perspicacious, humane, and to his profession enthusiastically attached. It was partly the misfortune of his education, and partly incidental to his sanguine temperament, that he was ever too easily induced to think himself original, and felt an almost restless eagerness to see every thing in a new light. The early traits of his character as an author and practitioner, which were developed in his publications on Puerperal Fever, seem to us to be discernible throughout his whole life. In all his subsequent compositions we remark the same powers of observation and description; the same felicitous adaptation of practice to the particular disease before him; the same belief that whatever he himself knew at the actual time was the limit at that time of other men's knowledge; the same self-complacent depreciation of his real or supposed opponents; and the same air of being sacrificed to the cause of practical truths, unwelcome to the speculative and the learned. Unlike the generality of students, he looked back, without gratitude, affection, or respect, to the place of his medical education. Of his teachers there, he retained a filial recollection of Dr. Hamilton alone; and it is most probable that, for some reason or other, he saw little other practice in the Infirmary. With the value of the clinical lessons to be gained in it he seems to have been altogether unacquainted. Yet to Edinburgh his education was strictly limited; and it is to be regretted that, with his industrious habits and enquiring mind, his straitened circumstances, when a student, should have deprived him of the advantages then peculiar to that celebrated school of medicine, and which would have enabled him to lay a wider and better foundation for that practical experience which it was his after-delight to build up.

He wrote fully, and somewhat dogmatically, on fever, before his acquaintance with the forms of that disease, which receives modifications from so many circumstances, could guard him from errors which it gave him much subsequent trouble to controvert; and, vacillating evermore between extreme opinions, he never acquired a firm hold of those to which correctness could give stability. He began a contagionist; or, rather, he began by believing human contagion to be the sole cause of genuine typhous fever: he afterward admitted the parallel claims of malaria, or marsh effluvium; but, warming with the discussion, and thus seemingly disqualified for temperate enquiry, he was at length strongly inclined to abandon, if he did not indeed abandon, contagion altogether. His practical foibles were perhaps of deeper consequence. He began as an advocate for large bleedings, and he alternately or successively advocated large doses of calomel, of opium, of colchicum. His unprepared pupils were amazed by the simplicity and uniformity of practice now first unfolded to them. For them no longer was there to be or doubt, or uncertainty, or hesitation, or failure. He, and he alone, without the learning of colleges, had discovered the true key of practice. Great truths, they knew, did ever find slow acceptance: discoverers were generally denied their full merit: such had ever been the reluctant homage paid to the benefactors of mankind; but their merits were acknowledged after their death, and their reputation was enduring. Of the applicability of all this to himself, Dr. Armstrong felt the most undoubting conviction: he affirmed it with a warmth, a solemnity, a pathos, which moved his hearers, and drew tears from their eyes and his own. The consequences were curious: his pupils went forth full of confidence, and full of contempt for learning; they were armed with specific plans of treatment, which, directed by their sagacious and original observation, would never fail. Meantime he, their industrious preceptor, was ever catching new rays of information, and continually modifying those axioms which he and they had deemed immutable, until, towards the close of his active life, there were few practical opinions of his early years which he had not given up: his premature confidence had given way to unreasonable scepticism, and, in the estimation of those who met him in consultation, his practice, from being bold and as it were settled for ever, had become, by successive changes, in the most remarkable degree feeble and inert.

These faults we have dwelt upon, from no unkindness, nor from any willingness to wound the unresisting dead, nor to prolong the memory of what detracted from the usefulness of Dr. Armstrong; but from a conviction that they operated unfavourably on the character of students of medicine, and on the London school, to the weakness and prejudices of which they came but too much recommended. The peculiarities of that school had too long been those which Dr. Armstrong encouraged; empirical confidence and theoretical scepticism; a fondness for bold specifics, and an excessive distrust of reasoning, under the denounced name of theory. Not learning alone, but common literary acquirement, was then in some disrepute; practical knowledge was extravagantly and ignorantly extolled; and in these particulars certainly Dr. Armstrong was no reformer.

We speak of days upon which new days have now arisen. The London school is now taking higher ground. But students may learn from the rapid rise and decline of Dr. Armstrong's opinions and authority as a teacher and guide, from his fugitive fame, and almost ineffectual toils, that whatever talents are possessed, and whatever diligence is exercised, medical truths are not to be hastily attained; and that the most acute observations of youth can only acquire permanent value by patient reflection when years have added increase to knowledge and afforded opportunities of wider observation.

ART. III.

A Treatise on Pulmonary Consumption; comprehending an Inquiry into the Causes, Nature, Prevention, and Treatment of Tuberculous and Scrofulous Diseases in general. By JAMES CLARK, M.D. F.R.S., &c. —8vo. *London*, 1835. Pp. 398.

THE substance of the present treatise, it may be proper to mention, first appeared, about a year ago, in the Cyclopædia of Practical Medicine, in the form of an article entitled "Tubercular Phthisis." The favourable reception which it instantly met with induced Dr. Clark to revise and enlarge it for separate publication. Much of it having been rewritten, and the whole of it improved, we can say with truth that, as it now stands, we are not acquainted with any single volume on the subject of tuberculous affections, which we should be so earnest in recommending to the diligent study of the profession, especially the younger members. In individual parts, it may be surpassed by the admirable works of Laennec, Bayle, Louis, and Andral; but, as a text-book and guide to the inexperienced practitioner, we know none equal to it in general soundness and practical utility.

In common with all late writers, Dr. Clark restricts the term pulmonary phthisis to that form of consumption which depends on the existence and breaking down of tubercles in the lungs; and consequently the grand aim which he has in view is to obtain a correct knowledge of the origin, nature, and treatment of tubercular disease. How far he has been successful in attaining his aim, we shall proceed to enquire.

Two opinions are entertained in regard to the origin of tubercles. By some they are considered to be merely a local affection, and the result of local morbid action, with which the system sympathises only after the local disease has made considerable progress. By others they are held to be never produced by local irritation alone, *but to be invariably the consequence of a pre-existing unhealthy state of the constitution, without which the accidental causes which call them into being would have been entirely incapable of producing them.* Among the advocates of the latter opinion, Dr. Clark is perhaps the most distinguished.

If pulmonary tubercles be a purely local affection, depending entirely on the colds and trifling accidents to which they are commonly ascribed, it will be sufficient for their prevention that we guard against exposure to these causes: whereas, if they be really a secondary ailment, originating in and dependent upon a previously disordered state of the general health, no protection which is not equally powerful in preserving the health of the system at large will be adequate to their prevention.

That pulmonary tubercles are not the primary disease, but really the local results of a pre-existing constitutional disturbance, seems to be established by their whole history. Whether we consider them in their origin, their progress, their complications, their ultimate terminations, or the powerlessness of local treatment for their removal, we arrive directly and invariably at the same conclusion. Imperfect though our knowledge is, we are too well acquainted with the intractable nature of actual disorganization to allow us to hope for the speedy discovery of any remedy capable of removing tubercles, when they have once been formed; and therefore, if medical aid is to be of any avail, it must be in the detection and appropriate treatment of the disease in its first or constitutional stage, and not after delaying till actual disorganization forces the patient to apply for relief.

Such being the fundamental principle earnestly advocated by Dr. Clark, of the truth and importance of which we entertain a profound conviction, we need scarcely add, that we rejoice in the opportunity now offered to us of warmly recommending the present work, as containing the best exposition we have yet seen of "this the most important, but hitherto the most neglected, part of the subject;" and of expressing our entire concurrence with the author in believing it impossible, on any other principle, to arrive at "a sounder pathology of tuberculous diseases, or to establish a more rational and effectual mode of prevention, and a more successful method of treatment, than have hitherto prevailed." (P. 6.)

In investigating the *causes* by which phthisis is induced, every step of the progress will be found to afford additional evidence of its constitutional origin; and every circumstance to which its occurrence is usually ascribed will be discovered to be powerful, in almost exact proportion to the influence which it possesses in previously deteriorating the general health. So long as the constitution remains unimpaired, the ordinary exciting causes may come into active play again and again, during a whole lifetime, without producing consumption; but, the moment the tone of the system is seriously lowered by sedentary habits, insufficiency of food, impaired digestion, depression of mind, excessive study, or living in an unwholesome atmosphere, the liability becomes so much increased, that a very slight external cause will then suffice to induce the deposition of tuberculous matter. It is, as Dr. Clark acutely remarks, from overlooking this obvious distinction between the local and constitutional conditions, that many things are set down as active exciting causes of phthisis which have, in reality, little direct influence in its production; while others, of much more importance, are disregarded, merely because their immediate effect is on the general system, and not exclusively on the lungs. Catarrh, for example, is set down as a very frequent cause of consumption, and yet we know that it may occur, in every degree of frequency and severity, in an otherwise healthy subject, without inducing a single tubercle; and that, in point of fact, thousands suffer almost yearly from catarrh, who nevertheless live on to a good old age. In like manner inflammation is stated to be a cause, and yet we see every day numerous instances of perfect recovery, without even a threatening of phthisis supervening; and a similar remark is applicable to wet feet, exposure to cold, and all other accidental occurrences, to which, solely because they preceded its observable development, consumption is often ascribed.

It is perfectly true that a cold or an inflammation sometimes excites pulmonary consumption, and that its influence cannot be safely neglected. But then, as Dr. Clark is most earnest in inculcating, it has this effect only where the constitution is either naturally or accidentally predisposed to it; and but for this predisposed state, to which Dr. Clark gives the distinctive name of *tuberculous* or *strumous cachexia*, no such serious results would have followed. The predisposing cachexia then, rather than the catarrh, affords the true key to the production of the subsequent local effect; and ought first to engage our attention. That this is the proper view of the origin of phthisis, will become still more evident as we proceed. We shall find the various circumstances from which the cachexia derives its origin to be precisely those which are also most powerful in inducing the ultimate result—phthisis pulmonalis; thus clearly demonstrating that the predisposing condition is in fact as well as in theory the most influential agent in the production of the disease.

Dr. Clark mentions that tuberculous or strumous cachexia may exist from birth, or be acquired at almost any period of life from infancy to old age. When it exists at birth, it is generally a result of the unhealthy condition of one or both parents. Dr. Clark "regards it as one of the best established points in the etiology of the disease, that a parent labouring under tuberculous cachexia entails on his offspring a disposition to the same affection, proportioned, in general, to the degree of the disease under which he is labouring." This latter remark is so perfectly true, that we often observe the malady varying in intensity in the different members of the same family, according to its greater or less activity in the parents at the time of conception. Children born to parents who either have not attained or have passed the vigour of maturity, generally inherit the predisposition more strongly than those born under more favorable circumstances. We know a curious example of this fact in a family where, out of seventeen children, the first eight presented the appearance of scrofula: whereas of the last nine born, necessarily after the strength of the parents was somewhat shaken, not fewer than six were deeply marked with scrofulous sores, and a seventh died of dropsical effusion from glandular obstruction. Of the other two, one, the youngest of all, died in infancy, and the other of fever at the age of twenty.

The common notion is, that it is only parents actually suffering under scrofulous cachexia who can impart it to their offspring: but Dr. Clark takes great pains to shew that this is a mistake, and that any cause whatever which seriously deteriorates the general health may give rise to the tubercular constitution in such of the children as are produced during the continuance of the parental bad health. If, for example, a soundly constituted parent becomes subject to severe dyspepsia, gout, cutaneous disease, or depression of mind, or is obliged to live constantly in a confined and unhealthy atmosphere, the children born to him during that time will generally exhibit all the features of the scrofulous diathesis, as strongly as if the parent himself laboured under its influence. In some instances, the more favorable situation of the mother may modify the result, but the tendency will still be the same. In like manner, children procreated during convalescence from fever, or other illness, generally shew traces of their unfavorable origin.

Of all the causes, however, which act primarily on the parents, Dr. Clark remarks that "dyspepsia is the most fertile source of cachexia in every form," although it "may also originate in derangement of the various secretory and excretory functions, particularly that condition of them in which the effete matter is imperfectly carried off." (P. 223.) Nor is this to be wondered at; for disordered digestion, by affording imperfect materials for the formation of new blood, necessarily impairs the nutrition of the whole system; and thereby renders every organ and function more than usually susceptible of disturbance.

Other conditions in the parent may induce the tubercular constitution in the offspring; but the above examples are sufficient to illustrate the principle and demonstrate the reality of the importance attached to it by our author. Before quitting the subject, however, we cannot resist quoting the following summary of the various degrees in which the tuberculous constitution may exist at birth.

"1. Although it is a rare occurrence, the child at birth may present tubercles in one or more organs.

"2. The next degree of hereditary disease is that in which the infant is afflicted with tuberculous cachexia,—a state which requires very slight exciting causes to determine the deposition of tuberculous matter in some organ. The children of consumptive parents are not unfrequently born in this state, and often die of tuberculous disease during the period of infancy.

"3. Again, the child presents all the characters of the tuberculous or scrofulous constitution, and, without care, gradually lapses into a state of tuberculous cachexia, and dies of tuberculous disease. The greater number of scrofulous and consumptive cases which we meet with in childhood and youth are referrible to this degree of hereditary predisposition.

"4. In another class of cases, the child merely shews a predisposition to those functional derangements which generate the tuberculous constitution; more especially to that form of dyspepsia—the *strumous*—to which I have already referred, as capable of generating the tuberculous cachexia, and consequently of giving rise to every form of tuberculous or strumous disease. The cases of predisposition to consumption which come under this class are, according to my observation, the offspring of parents who have laboured under dyspepsia, gout, cutaneous, and other diseases *not* of a tuberculous nature. *They constitute the most numerous and the most remediable of the degrees of hereditary disease*, and yet their nature is least understood." (P. 226.)

We agree with the author in considering the subject as deserving more serious attention from the profession than it has yet received; but we may remark, that we perceive little distinction between the second and third heads in the preceding division.

The principal causes which give rise to tuberculous cachexia, and consequently to consumption, in those not hereditarily predisposed, are, according to our author, "improper diet, impure air, deficient exercise, imperfect clothing, inattention to cleanliness, abuse of spirituous liquors, and affections of the mind;" and the earlier in life these causes exist, the less can the individual withstand their influence. Hence the vast importance of a rational system of diet and regimen for children from infancy upwards, and of a thorough reform of our prevailing modes of education.

Improper diet is well known to be a fruitful source of scrofulous disease, especially in very early life, when nutrition is going on actively. Its impropriety, however, may consist in *excess*, and in *quality*, as well as in *deficiency* of food. The lower classes suffer most from deficiency and inferior quality, and the higher from excess and too stimulating a quality. But among the poor there is usually added a combination of other causes, such as bad air, neglect of cleanliness, and want of clothing, which necessarily aggravate the want of proper food, and leave it difficult to determine the exact amount of its separate influence. But that this influence is great must be admitted by every one who has practised among the poor, particularly in seasons of scarcity. In the summer of 1809, when the children of the Dublin House of Industry were fed almost exclusively on vegetables and butter-milk, scrofula became extremely prevalent among them, and was ascribed by Mr. Carmichael partly to the faulty diet, and partly to impure air and deficient exercise. By substituting half a pound of animal food every alternate day, and a quart of boiled sweet milk daily, for the butter-milk and insufficient vegetable aliment, and improving the digestive functions by alteratives and tonics, "the amendment produced was obvious and rapid," and "there was not one instance of the disease afterwards making progress," although "the children unavoidably remained, while under treatment, exposed to the same impurity of air and want of exercise."* In these examples, the influence of diet is placed beyond a doubt.

But *want of fresh air and exercise* is even still more productive of tuberculous cachexia than deficiency of food; and accordingly, in workhouses, manufactories, and confined and crowded cities with narrow streets, where the air and the light of day scarcely ever enter, the diseases dependent on this state of the constitution are very prevalent. Baudelocque, indeed, goes so far as to say that impure air is the only cause of scrofula; and, when we consider that respiration is essential to the ultimate conversion of food into nutritive blood, we cannot wonder that the want of fresh air should have great influence in lowering the general tone, and generating the tubercular predisposition. On this point also Mr. Carmichael furnishes some decisive evidence. Out of thirty girls attending the Bethesda school, in Dublin, in 1809, *all fed and clothed in the best manner*, six were badly affected with scrofula, although not one of them presented any appearance of the disease on her admission. It appeared, on enquiry, that, from their being no play-ground attached to the institution, the children were obliged to remain in the school or bed-rooms during play-hours, without any opportunity of getting exercise in the open air; and that, in consequence, their health speedily began to suffer. The very same thing occurred in St. Thomas's parochial school, where *seven* out of twenty-four girls,—also well fed, clothed, and lodged,—were attacked by scrofula, apparently in consequence of having been kept "perpetually within doors, at their school-books," during the preceding winter and spring, owing to an inundation of their play-ground.

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* See Carmichael's "Essay on the Nature of Scrofula," p. 89, 90.

Not one of them had the disease when admitted, nor were any affected until they were deprived of air and exercise, although their diet was previously worse than when scrofula appeared. In the male and female asylum of the Dublin House of Industry, already alluded to, when speaking of diet, scrofula was formerly so prevalent as to be considered contagious by the attendants; but then it was so crowded by nearly five hundred children, that in one ward of moderate height, sixty feet long by eighteen broad, there were thirty-eight beds, each containing three children! Even during the day, most of the children were either confined in their sleeping apartment, or crowded, to the number of several hundreds, in the same school-room. On opening the door of the female apartment in the morning, the matron found it impossible to endure the effluvia. Is it surprising that in such circumstances scrofula should have prevailed?

These facts (and we could mention others of a similar tendency, regarding our own charitable institutions,) are full of practical instruction, both as explaining the sources of the tubercular diathesis, and as suggesting means for its prevention and cure. Were it necessary, we might adduce additional evidence of the same kind from Lepelletier's prize essay;* but to that work it will be sufficient to refer.

A sedentary mode of life tends strongly to give rise to tuberculous cachexia, both from the absence of muscular exercise, and from the confinement to a close and impure air, which it necessarily involves. The whole animal system having been arranged by the Creator for a life of activity, the immediate effect of indolence and sedentary habits is to lower the activity of nutrition, and, as a necessary consequence, to impair the vigour of the digestive functions. Females, students, and literary persons, often induce an unsound state of constitution, from this cause, added, in the cases of the second and third, to too much mental excitement. But *excessive* bodily exertion is not less unfavourable to health, particularly before the age of maturity; and many youths do themselves irreparable injury in this way, during shooting or walking excursions, especially when growth is going on rapidly. Under such circumstances tubercular disease is often stirred up by causes which, under better management, would have had no such effect.

The *state of the mind,* also, is extremely influential in inducing the tuberculous constitution. If the mind be harassed by care, depressed by grief, or even exhausted by incessant exertion, the general health begins immediately to suffer: the stomach and bowels become disordered, nutrition languishes, a sallow paleness takes the place of the ordinary complexion, and disease is excited in the lungs, the mesentery, or any other organ, by the slightest local irritation. Debility and a consciousness of impaired health are all that is felt for a time, but, as they do not incapacitate the individuals for business, they are too commonly neglected till they terminate in phthisical or other disease. It is to urge the early observance and requisite treatment of this, really the first and only curable stage of tubercles, that the efforts of Dr. Clark are so strenuously and properly dedicated.

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* Traité complet de la Maladie Scrophuleuse, par Lepell tier de la Sarthe.—Paris.

But, as remarked by our author,

> "Of the various phenomena presented by a person strongly predisposed to or labouring under tuberculous disease, *a cong stive state of the abdominal venous circulation* will, I believe, be found, on close examination, to be one of the most constant. In children originally of a strumous habit, we observe a constant disposition to this congested state of the abdominal circulation; and, unless we succeed in obviating it, they become tuberculous, and die early in life. In youth we find the same state of congestion as a precursor of tuberculous cachexia: at this age it manifests itself often by epistaxis, by hemoptysis, and even by hemorrhoids; but it is during the middle period of life, from thirty-five to fifty, that it is accompanied with more marked symptoms, such as dyspepsia and its various concomitants, which exist often for a very considerable time, and not unfrequently obscure the pulmonary affection till tuberculous disease has made extensive progress." (P. 263.)

Dr. Clark adds, that this congestive state was well known to the older writers, under the name of *abdominal infarctus;* and our experience leads us to think the weight attached to it by the author not over-rated. As a further corroboration, it may be mentioned that both Lepelletier and Carmichael notice the rise of scrofula from similar abdominal derangement. Lepelletier, indeed, contends that scrofula is an affection solely of the nutritive system; and, in evidence of the fact, endeavours to show that all its exciting causes may be arranged under three heads, according to the mode in which each affects the process of nutrition: viz. 1st, those which impair the assimilating action; 2dly, those which present insufficient elements of nutrition, such as bad diet and impure air; and, 3dly, those which impede healthy excretion.

The habitual use of *stimulating and exciting food and drink,* in too large quantity, is a frequent cause of the tubercular diathesis among the higher classes of society. When to this is added the depressing influence of late hours, close and heated rooms, vitiated air, mental inanity, insufficient exercise, and inadequate clothing, there is little difficulty in accounting for the appearance of the strumous constitution among the rich as well as among the poor; for the ultimate result differs little, whether the digestive functions suffer from deficiency or from excess of food.

The influence of *dress,* also, is very apparent. Among the poor, the want of adequate clothing aggravates every ailment. Among the peasantry of the northern and middle governments of Russia, the protecting power of sufficient clothing, and living much in the open air, is, according to Sir A. Crichton's account, not less striking. Scrofula, he says, is extremely prevalent in these districts; but, from the peasants being warmly clothed, and much out of doors, its ravages are confined almost entirely to the external glands; and, except in public schools, and among those who adopt the European dress and fashions, the lungs generally remain sound. In England, on the other hand, where a large proportion of the labouring classes spend their days in the confined air of our manufactories and workshops, and, when exposed to the weather, are very inadequately clothed, the pulmonary affection is far more commonly met with; and the horrible disfiguration of the surface, so frequent in Russia, is comparatively rare. In the same way, when it was the fashion, some years ago, for English women to dress very lightly, even in the depth of winter, consumption carried off numbers, who presented no external marks of scrofula, and who might have been saved by more rational conduct.

Under the head of *Statistics of Consumption*, Dr. Clark communicates much additional information on the origin of tuberculous cachexia, and which, in a practical point of view, might have been more usefully discussed when treating of the causes. The whole of it tends, like what has preceded, to demonstrate the grand principle of his work, that tubercles are not a local affection, but the results of constitutional disorder, and never make their appearance until the general health has been more or less deteriorated.

It appears, for example, from the best statistical tables, that tubercles rarely, if ever, occur at birth, except where either actual illness or a strong predisposition exists in the parents. After the end of the second year, however, when bad nursing, teething, improper diet, and confinement in an unfavourable locality, have had time to weaken the general system, and especially the functions of digestion and assimilation, they are very common; so much so, that, from the comparison of various observations, Dr. Clark thinks it may "be said that the tendency to them is some hundreds of times greater in the fourth year than at birth;" and that about twenty-seven in one hundred of those who die before puberty are affected with tuberculous disease. These are startling facts, and indicate error in some part or other of our management of young, which it is the especial duty of the medical profession to find out and provide against. In early life, when digestion and nutrition are most active, the abdominal organs and glands seem to be most frequently affected; whereas, after the age of eighteen, the tubercles most commonly affect the lungs. In both, however, the disease is the same, and its seat alone is different.

Among the trades and occupations in which mankind are engaged, those which tend directly to deteriorate the general health are invariably those which are most productive of tubercular disease; thus affording another proof of the latter being a constitutional and not a local ailment. "The effect of sedentary habits," says Dr. Clark, "in all classes and conditions of society, is, in my opinion, most pernicious; and there is perhaps no cause, not even excepting hereditary predisposition, which exerts such a decided influence in the production of consumption, as the privation of fresh air and exercise. Indeed, the result of my enquiries leads to the conviction that sedentary habits are among the most powerful causes of tuberculous disease, and that they operate in the higher classes as the principal cause of its greater frequency among females." (P. 201.) The truth of this opinion is confirmed by daily observation; and, in accordance with it, we find that shoemakers, tailors, dressmakers, weavers, and those who pass their days in a constrained position, in ill-ventilated apartments,—and whose occupations "are eminently calculated to prevent the free exercise of the respiratory organs, to diminish the powers of the circulation, to impair the nutritive functions, and produce a corresponding depression of the nervous energy," and deterioration of the general health,—are among the most frequent sufferers from consumption: whereas, butchers, tanners, seamen, and others, who live actively in the open air, and are well fed and clothed, are almost exempt, although they are often exposed to cold and wet, and to all those vicissitudes of the weather which are generally regarded as the immediate causes of phthisis. The Jesuits were well aware of the bad consequences of inactivity, and, with their usual sagacity, made it a rule of the order that there should be some active bodily exertion after every two hours of study.

The total insufficiency of even the most active local causes to produce tubercular phthisis, where *there is no predisposition*, is strikingly apparent in the fate of stonemasons, needle-pointers, dry-grinders, and other operatives who are constantly exposed to the inhalation of acrid dust into the lungs, and who are actually carried off, most of them before the age of forty, by pulmonary disease so induced; but in whom, nevertheless, it is rare to meet with true consumption. Almost always it is chronic bronchitis, a distinctly inflammatory affection, which proves fatal to them; and tubercles appear only where a strong predisposition exists. Nothing can show more clearly the paramount share which the constitutional state has in giving rise to the disease.

A cold, moist, and variable climate is extremely favourable to the production of scrofula and consumption, and evidently exerts its influence chiefly on the general system. In Lepelletier's division this cause is included among those which act chiefly by impeding excretion; and its agency is exemplified in the frequency of scrofulous and tubercular affections towards the end of winter and the beginning of spring, when the absence of the healthful stimulus of solar light and warmth has had time to operate.

Such then are the true causes of consumption; and the colds and inflammations, to which it is commonly ascribed, are merely the sparks which set fire to the train, and owe their power of doing mischief solely to the constitution being already prepared. The tuberculous predisposition is truly the first act in the fatal drama; and therefore, in guarding against and watching its approach, the greatest vigilance and decision are required, especially towards the approach of puberty. For, as has been well remarked by our author, that period of life "is one of great importance in persons predisposed to consumption."

> "If the health has suffered by mismanagement in education, or from other causes, during early youth, the system very often shews it in a remarkable manner about the period of puberty. The development of the body, which should naturally take place at this age, and which in healthy persons is accompanied with an increase of strength and vigour in the system, is often delayed beyond the usual period, or imperfectly accomplished. If, therefore, young persons remain weak and thin, or look unhealthy after the usual period of puberty, they may be considered as in great danger of falling into tuberculous cachexia. Those who have been overworked at school, or kept much at sedentary occupations, frequently present this state of deteriorated health.
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> "Under such circumstances, the utmost care will be necessary to prevent tuberculous disease. A strict examination and enquiry should be made into the state of every function, and more especially of those connected with nutrition. The condition of the digestive organs and skin requires particular attention, because they are most commonly deranged; the tongue will very often be found furred; the alvine evacuations irregular; and the skin dry, harsh, and affected with eruptions, particularly with acne in its various forms: in young females the catamenia are retarded or imperfectly established. Such are the common symptoms presented to us in these cases, but they admit of considerable variety in different constitutions and temperaments.
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> "The absolute necessity of early attention to those indications of tuberculous cachexia cannot be too strongly impressed by medical men upon the minds of parents. There can be no doubt that a very large proportion of our youth, who fall victims to consumption from twenty to thirty years of age, might be saved by a timely adoption of the simple measures detailed in this chapter, and which are, in some degree, within the power and reach of all." (P. 296.)

It may be thought that we, as well as Dr. Clark, insist too much on the constitutional causes of phthisis; but, in a practical point of view, every thing depends on a thorough acquaintance with them. If we are influenced by the prevailing opinion that phthisis is a merely local affection of the lungs, independent of any constitutional condition, we necessarily remain inactive till the tuberculous deposit has taken place, and the disease becomes avowedly incurable: whereas, if, from conviction, we adopt the principle that it is the pre-existing diathesis alone which gives power to the exciting causes, we are as necessarily led to take alarm at the earliest moment, and to use every means in our power, while a successful result is still possible.

Following the scope of Dr. Clark's enquiry, rather than his actual arrangement, and passing over in silence such parts of the subject as have been already fully discussed in the excellent works of Laennec, Andral, and Louis, we shall now shortly consider some of the consequences which flow from the pathological views so ably expounded by him.

If it be true that phthisis is the result of a pre-existing morbid state of the constitution, either inherited from the parents or produced by external circumstances, and that ordinary causes rarely suffice to produce it where the predisposition does not exist, it unavoidably follows that *the prevention and removal of that predisposition* must assume a preponderating importance in the eyes of every reflecting practitioner; and that, to the attainment of these objects, even more than to the cure of phthisis, the attention of the physician ought to be especially directed.

After the full exposition we have given of the causes of tuberculous cachexia, the principles of the preventive treatment may be despatched in a few words. The grand object is to secure observance of the laws of health so far as to avoid the errors which we have pointed out as inducing the tendency to the disease; whence the reason is obvious why a thorough investigation of the causes, and of their mode of operation, becomes so necessary in practice. If the predisposition arises from the bad health or imperfect constitution of the parents, the obvious dictate of nature and of the moral law is that parents so constituted ought not to marry, as they have no right to entail a curse on their offspring. If, again, the child acquire the predisposition from insufficiency or excess of food, confinement in a vitiated atmosphere, or living in a low, damp, and cold locality, let these causes be thoroughly remedied, and health will follow. In like manner, if excessive study, indulgence in sedentary habits, depression of mind, dyspeptic disorder, or other debilitating cause, be in operation, the most efficacious preventive treatment will consist in placing the person in a more favorable situation, and in adopting every measure calculated to improve the general health. Among such measures, free exhilarating exercise in the open air,—in games, on horseback and on foot,—adequate clothing,—nourishing diet,—living in a cheerful and airy situation, —the full play of the lungs in reading, recitation, and conversation, —and the avoidance of cold, wet, fatigue or exposure to night air,— will be especially serviceable. From long experience, we strongly recommend that the shoulders, top of the chest, and spine be kept comfortably warm; as nothing tends more to prevent congestion of the upper lobe of the lungs and irritating cough. The ordinary dress in Britain is in this respect very defective. In the house and in public places females have little or no covering on the neck and shoulders, although out of doors the warm shawls worn in winter are a great protection. The dress of males is also much open to objection. Generally speaking, the coat and waistcoat are open in front, and expose the chest to the cold; and even when a close double-breasted waistcoat is worn, the back of both it and the coat is left without lining, and presents only one fold; although there are perhaps three or four in front. The consequence is, that the spinal column, which ought to be completely protected, remains comparatively exposed, and the nerves issuing from it become impaired in vigour, and not only increase the delicacy of the chest, but lead to disordered digestion and induce sluggishness of the bowels; which in their turn react on the general health. We can at least affirm that we have experienced, and occasionally seen, this result; and that it has generally been removed or diminished in intensity by removing the cause above alluded to.

Among the preventives of tuberculous cachexia, we concur with Dr. Clark in laying much stress on the systematic practice of full and deep inspiration, and on the direct exercise of the lungs in reading aloud and indulging in noisy amusements in the open air. It is astonishing how much may be done in this way to develope and give strength to the chest, and we think the profession overlook too much the advantages which may be derived from some of these simple expedients, under proper regulation.

It is especially towards puberty, as already remarked, that preventive treatment becomes so important. If proper care be then taken to invigorate the constitution, a long continuance of good health may often be secured, even under considerable subsequent exposure. In general, the precautionary treatment is adopted too late, is not decided enough in its character, or is not systematically persevered in for a sufficient length of time. Instead of being encouraged to continued cure by an increase of strength and health, the patient and his friends often think they may now relax in their efforts, as the necessity has become less urgent than before. Having for several years past acted on this principle enforced by Dr. Clark, we could point to more than one instance in which a timely abandonment, for a year or two, of all scholastic and sedentary pursuits, for active exercise in the open air, regular living, and removal to the country in summer, have led to the permanent reestablishment of health in scrofulous fast-growing youths, who previously presented every appearance of soon becoming the victims of tubercular disease. It is in this stage of life that the rich have so much in their power, by removing for two or three years to a warmer and steadier climate, and adopting a rational system of physical and mental education, in place of the long school-hours and intellectual cramming and emulation now so fashionable, and so detrimental to health.

Most of the recommendations given by Dr. Clark for the prevention of phthisis are equally applicable to the treatment of tubercular cachexia; and one evil of the extent to which the author has subdivided his subjects is, that some of his less reflecting readers will fail to have this fact sufficiently impressed upon their minds. For example, the choice of a favorable locality, change of air, exercise on horseback, cheerful mental occupation, attention to clothing, and every thing, in short, which we have already spoken of as constituting a part of the *preventive* treatment, is equally important in the *cure* of tuberculous cachexia. Yet in the chapter dedicated to the latter subject, with the exception of two pages on climate, sailing, and travelling, there is no reference made to any of them as conditions which require to be fulfilled; and medical remedies only, such as alteratives, tonics, and purgatives, are noticed. The careful reader will not suffer from the omission, but when we consider that this is the only curable stage of consumption,—that Dr. Clark's treatise will necessarily become a book of reference and consultation both to the medical attendant and to the invalid,—and that, in *referring* to a work, we generally read at the time only the part in which we are more immediately interested, or on which information is wanted,—we cannot help regretting that the author did not embody in the beginning of the chapter a strong and decided statement of the necessity of attending to these indispensable conditions of recovery. Phthisis, in its second stage, is so confessedly intractable, that we should consider the treatment of the preceding cachexia as demanding more ample and careful development than that of the disease itself; and therefore, when a second edition shall be required, we trust that Dr. Clark will so far improve his arrangement as to collect every thing bearing upon the prevention and cure of the cachexia into one focus, and leave nothing to be sought for by the reader from the other chapters. It is better that a useful truth should be even thrice repeated, than that it should not be found in the place where it is most wanted. We are the more anxious on this point, because we are as deeply impressed as Dr. Clark himself with the conviction that in a large proportion of cases the disease *may* be prevented, although it cannot be cured; and we think his work otherwise excellently calculated not only to extend this conviction among the profession, but to assist in converting the possibility into a reality. The zeal and success, indeed, with which Dr. Clark has advocated the efficacy of preventive measures, and shewn their application to constitute a most important and hitherto neglected part of the province of the physician and of the duty of parents, are perfectly admirable. Years will no doubt elapse before society will reap the full benefit of the projected improvement; but every day is bringing us nearer the point when the family practitioner will be called upon to direct the physical and general education of the young, and to exercise a more efficient superintendence over public health, with a view to *prevent* as well as to *cure* disease. And were any additional evidence required to prove how much may be thus accomplished, the single circumstance of one class of society being much more free from consumption than another, would be sufficient to shew that we already possess the means of warding it off to a much greater extent than our own indolent ignorance is willing to admit, and that we are proportionally culpable in neglecting to employ them.

We had marked for comment various passages descriptive of the features, pathology, and curative treatment of tuberculous disease, but have left no room for them. We regard, however, this omission as unimportant, compared with the duty of giving a correct view of the principles on which the work is written. If we have done justice to this part of the subject, few of our readers will fail to study the original treatise. The author's observations on the remedies used in the cure or alleviation of phthisis are characterized by soundness, discrimination, and judgment; but we can refer only to those on the use of emetics, which we think deserve serious attention. Dr. Clark mentions that emetics have been extensively employed, in every stage of the disease, in one of the military hospitals of Naples, by Dr. Giovanni de Vittis, and with astonishing success. If the cases treated by Giovanni de Vittis were really cases of phthisis, and if the results be correctly reported, it would be right for some of our enlightened hospital physicians to lose no time in giving his mode of treatment a fair trial, especially in the earlier stages of the disease. We confess that, looking to the origin and nature of phthisis, we cannot see cause to be sanguine in our expectations. At the same time, in a case like this, where every thing that has been hitherto tried has almost uniformly failed, we think that any plan which holds out even the slightest encouragement ought to be fairly tested, and its real powers widely proclaimed. In chronic bronchitis resembling consumption, emetics are unquestionably useful, and it *may be* that in phthisis also they are beneficial.

In drawing to a close this imperfect notice of one of the most valuable works which have lately appeared, we must do the author the justice to say that he lays no claim to originality in the views which he has advocated. "Much that is contained in the following pages," he modestly says, "is already known to the more intelligent and experienced of the profession; and the only credit I can claim is the having, perhaps, placed the subject in a more striking point of view, and advocated it with an earnestness commensurate with its importance." To this credit, and to more than this, Dr. Clark is most fully entitled. If he has not been the first to originate the doctrines which he expounds, he has unquestionably been the first to appreciate and make known their true value, and to demonstrate their easy applicability to the diminution and prevention of one of the most prevalent and fatal diseases to which mankind is subjected. And in public estimation, this latter service often, we suspect, ranks higher than the former. The mere discovery of a truth is of little use unless its importance also is perceived and made extensively known; and this has not hitherto been the case with the peculiar views which constitute the staple of Dr. Clark's publication. We may add that, to the general as well as to the professional reader, the work will prove of the deepest interest, and its perusal of unequivocal advantage.

ART. IV.

Die geburtshülfliche Exploration, von Dr. ANTON FRIEDRICH HOHL, ausserordentlichem Professor der Universität zu Halle, u. s. w. *Erster Theil: Das Hören.—Halle,* in Januar, 1833. 8. 314 s; *mit einem Kupfertafel. Zweiter Theil: Das explorative Sehen und Fühlen, nebst einem Anhange.—Halle,* in Januar, 1834. 8. 438 s.

Operationslehre für Geburtshelfer, in zwei Theilen. Von Dr. HERMANN FRIEDRICH KILIAN, ordentl. öffentl. Professor der Geburtshülfe und der Geburtshülflichen Klinik an der Rheinischen Friedrichs-Wilhelms Universität, u. s. w. *Erster Theil: die Operative Geburtshülfe.—Bonn,* 1834. 8. 478 s.

Obstetric Exploration; by ANTHONY FREDERIC HOHL, M.D., Professor Extraordinary at the University of Halle, &c. *Part First: Auscultation.—Halle,* 1833. 8vo. pp. 314; *with an Engraving. Part Second: Exploratio per Visum et Tactum; with an Appendix.—Halle,* 1834. 8vo. pp. 438.

Instructions in Operating for Accoucheurs, in two Parts. By HERMAN FREDERIC KILIAN, M.D., Public Professor in ordinary of Midwifery, and of the Midwifery Clinic at the University of Bonn, &c. *Part First: Operative Midwifery.—Bonn.* 8vo. pp. 478.

THE subject of obstetric diagnosis is only beginning to receive that degree of attention which its great importance demands. During the last few years, either from the increased facilities of communication with the continent, or from the general advance of science, and anxiety to investigate truth and lay aside the all-obscuring veil of theory, accoucheurs in this country have evinced a laudable zeal for its improvement: several valuable works on obstetrics have been published, and a variety of excellent memoirs have appeared in our Medical Journals. Much interest has thus been excited to the labours of our continental brethren, and most of the French obstetric works of the present day are in the hands of the English accoucheurs. Those of Germany have not been so much favoured; and it shall be our care not only to lay before our readers such works from that country as will acquaint them with the present state of knowledge there, but also to give such a selection and digest of that knowledge as may render it available and useful. The labours of our German brethren in the department of midwifery demand our attention and respect: their profound learning, patient investigation, unimpeachable honesty, methodical arrangement, and indefatigable industry, render them peculiarly valuable. The verbose diffuseness, of which they have been so long (and perhaps justly) accused, is beginning to disappear: few of the really valuable German writers are guilty of this fault; and by this criterion alone we may often form a tolerably correct opinion as to the merits of a work. We do not, however, intend to let this be our guide in reviewing the two works before us, but shall carefully investigate their merits, selecting whatever we think will prove of interest or utility.

We have combined the first chapter of Professor Kilian's work on Operative Midwifery with that of M. Hohl, since they treat upon the same subjects, with the only difference (and it is no slight one,) that what the former discusses in ninety-seven pages, the other dilates into two tolerably-sized octavo volumes.

Professor Hohl has devoted his first volume to the consideration of obstetric auscultation; a subject of increasing interest and importance, to which he appears to have devoted much attention and labour. Both works have given a view of its history, and we shall follow that of Professor Kilian, not only from being recommended by its clear, condensed, and decided style, but also from the additional recommendation, that it is well handled in the course of two pages; whereas M. Hohl has not been able to do with less than fifty. We will not deny but that the latter has given some interesting matter: unfortunately, however, it is so diluted by prolix verbosity, that in this part of the subject we must confine ourselves almost entirely to Professor Kilian's observations.

"There can be no doubt," says Professor K., "that Lejumeau de Kergaradec has the merit of having first applied auscultation to midwifery in a more extended sense, and endeavoured to make it practically useful; because, although the pulsations of the fœtal heart had been detected in utero by M. Major, an eminent surgeon of Geneva, two years before, still he had but a faint conception of the results which it would lead to; nor had he the good fortune to take advantage of his discovery. It must be also recollected that Major detected only the pulsations of the fœtal heart, and not the placental sound *(souffle placentaire)*, in every respect so much more important, and first distinctly observed and characterized by Kergaradec. The high consideration with which this important discovery was received by the Académie Royale de Médicine of Paris is shown by their Transactions at that time, and by the encomiums which the committee who had to report upon it, viz. Dubois, Deneux, Desormeaux, Laennec, and De Lens, (names of great eminence,) bestowed upon his memoir. We can scarcely, therefore, wonder at its having been received by eminent men of different countries with so much readiness, especially in Germany. D'Outrepont* made the first step, and stimulated his distinguished pupils, Drs. Ulsamer and Haus, to the publication of valuable essays, containing much original matter; the latter of which was even acknowledged in France, and translated. Busch† and El. v. Siebold‡ were not inactive, and the inaugural dissertations of Lau and Reccius evince the zeal of their teachers, although nothing new was added to what was already known, owing to the want of better opportunities for making observations. It is to this cause that we must not only attribute the fact of so little addition having been made to the original observations of Kergaradec for a number of years, but that this important discovery began to be almost forgotten, or looked upon with indifference and doubt. The last few years, in this respect, have made amends for the neglect of the previous ones: the original views of Kergaradec have been carried on, and improved upon, most successfully; having attained a much greater degree of certainty, and much more practical value. The labours of Schottin, D'Outrepont, Kennedy, and Paul Dubois, deserve especial mention: among them, those of Kennedy rank very high, although we look upon the classical memoir of P. Dubois as decidedly the most complete, and by far the best upon the subject; he having, with astonishing patience, accuracy, and talent, ausculted no less than three hundred pregnant and parturient women, and obtained the most interesting results."

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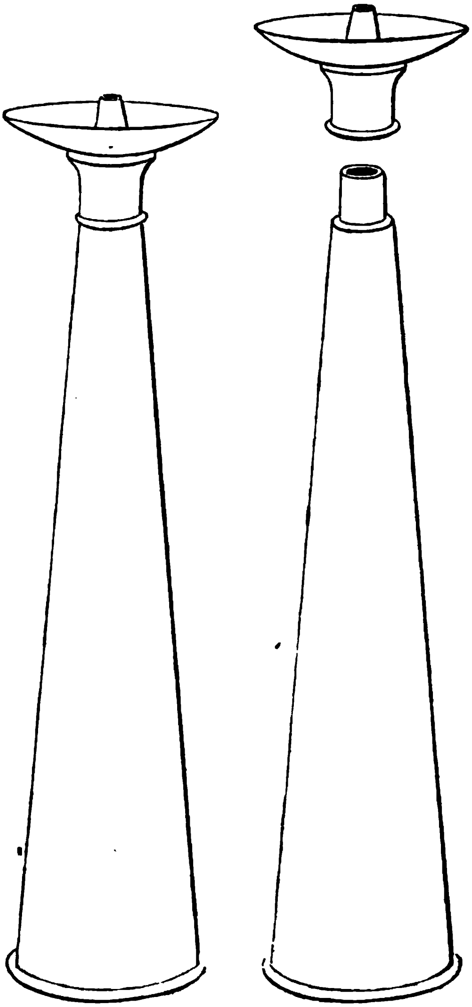
* Professor of midwifery at Würzburg.

† At that time professor of midwifery at Marburg, now at Berlin.

‡ Late professor of midwifery at Berlin.

Dr. Hohl agrees with most other obstetric auscultators, that the *mediate* auscultation is far preferable to the *immediate;* or, in other words, that it is much better to apply the stethoscope than merely to use the ear. In this we fully coincide with him: the sounds are heard clearer, more distinct, and less mixed with the murmur of the arteries in the immediate vicinity of the ear itself. Dr. Hohl has given a description and drawing of the stethoscope he is in the habit of using. We will translate the one, and give a copy of the other; because the instrument seems, on the whole, constructed on philosophical principles, and because we are anxious that all alleged improvements, in so important a department of practical medicine, should be made as widely known as possible. We have ourselves, as yet, had no practical experience of the instrument; and we confess we are apprehensive



that the projecting nipple on the auricular extremity will be found rather a disadvantage than an advantage.

The instrument consists of two pieces, viz. the ear-piece and tube. The former is a concave disc, two inches in diameter: its depth, which gradually increases towards the centre, is at this point about one sixth of an inch. In the middle there is a small conical tube, or nipple, a quarter of an inch long, to correspond with the external auditory passage, and thus prevent the opening being closed by the pressure of the disc, which, from its concave form, is well adapted to the external ear. On the convex surface of this disc is a neck, into which the extremity of the tube fits. The tube, without the neck, is nine and a half inches long, and funnel-shaped, so that, at the small end, the diameter is only three eighths of an inch; whereas, that of the other is two inches. The large end is furnished with a broad ring or edge, in order to prevent its hurting the patient during auscultation. Closing the [unemployed] ear, says M. Hohl, only disturbs; as it produces a boiling sound, which interferes with the perception of the ear to which the instrument is applied.

Professor Hohl prefers the supine posture, and we agree with him in thinking that the different pulsations are heard most conveniently so. Still, however, the standing position has its occasional advantages: the uterus presses firmly against the anterior wall of the abdomen, and, where there is a considerable quantity of liquor amnii, the child, in this position, will be actually nearer the stethoscope than when the patient is upon her back.

In ausculting the abdomen of an unimpregnated woman, but little can be heard beyond the sounds of the gas in the intestines: here and there, especially in the right hypochondrium and left iliac region, we occasionally detect a pulsating murmur, synchronous with that of the pulse. "In women, at the menstrual period," says Professor Hohl, "I have never been able to detect the slightest difference, nor could I ever distinguish the smallest sound proceeding from the uterus."

In women who have been but lately delivered, we hear little or nothing in the abdomen beyond what has been just mentioned; but, in placing the stethoscope over the uterus at this time, especially where it is large and rather soft, we shall hear a distant murmur, very much resembling what has been described by authors as the *souffle placentaire,* only much fainter. When the stethoscope is pressed firmly against the contracted uterus, directly in front, a deep pulsating murmur is heard, generally accompanied by a slight but distinct impulse: this is produced by pressing the solid mass of the uterus against the aorta, and may be generally avoided, either by applying the stethoscope on one side, or by being careful not to use much pressure. Little or no sound will be heard in the uterus for the first hour or so after birth; but, as the state of firm contraction gradually goes off, and it becomes larger and softer, and the blood again fills its spongy parietes, we now begin to perceive a low gentle souffle, like what we heard during the gravid state. M. Hohl observes, that this is increased during sharp after-pains, and that, in from five to seven days after birth, when the uterus has become hard and contracted, all trace of this sound is lost; but we are surprised that he makes no mention of the sound which is accompanied with impulse, and which is evidently produced by the aorta behind the uterus, and which may be heard certainly for seven, if not more, days after labour.

In availing ourselves of the account of auscultation during pregnancy, given by our authors, we must in great measure follow (as far as he goes,) Professor Kilian, on account of the clear and concise manner with which the descriptions are given.

"On ausculting the different parts of an abdomen which is distended by the gravid uterus, two species of pulsation will be distinguished: they are essentially different from each other, and are heard at different parts of the abdomen. In the first place, we shall hear, about the middle of the gravid uterus, a little to one side, and generally the left, distinct double pulsations, which follow each other very rapidly, and are mostly, although not always, in perfect rhythm; and, secondly, in various parts of the uterus, but most distinctly towards the fundus, and especially on the left, we shall also perceive very audible single pulsations, accompanied with a peculiar tone or murmur. The first sound is from the *pulsations of the fœtal heart;* the second is from the *murmur of the circulation through the gravid uterus.*"

We will follow the observations of the Professor at Bonn, where he enters more minutely into the description of these two sounds.

"*Pulsation of the Fœtal Heart.* In the first place, we must notice a fact, which we might almost expect, viz. that these pulsations, as well as the sound of the circulation, are heard much more distinctly after the discharge of the liquor amnii than before. Still the presence of the liquor amnii is never a hinderance of any importance, if the stethoscope be placed on the right spot; but it may easily happen that, during auscultation, either from the movements of the child or the patient herself, sometimes more, sometimes less liquor amnii is interposed between the fœtus and wall of the uterus; so that at one moment the fœtal pulsations will be heard stronger, at another weaker, and occasionally so weak as to be scarcely distinguishable. In order to avoid these varieties, and hear the sound as distinctly as possible, the best way is to press the stethoscope deep into the abdominal parietes, and thus bring it as near as possible to the child's body. These facts, which we have frequently observed in our own examinations, we are glad to find confirmed by P. Dubois.

"We usually hear from 140 to 150 double beats in a minute; nor does the age of the fœtus appear to have any influence upon the number of beats, because, about the time when the movements of the child can be just perceived, viz. between the eighteenth and twentieth week, and when the fœtal circulation can be first certainly heard, although with great difficulty, their number is precisely the same as above mentioned.

Yet sometimes, although only for a few moments, all at once, and without any assignable reason, (since nothing which accelerates the pulse of the mother affects that of the child,) the number of beats increases very considerably; diminishing at the same time so remarkably in power as to be almost inaudible. In ascertaining the situation of these pulsations, whether it be late or early in pregnancy, we find that they are not confined to a very small extent, but may be heard over a space of four fingers' breadth, and sometimes even more: the extent over which they can be heard is less when but a small quantity of liquor amnii is present, or where it has escaped: here, what we lose in extent, we gain in intensity of sound."

On the other hand, as M. Hohl observes, "it will occasionally happen that, for whole hours, the double pulsations will be only 106 or 108 in a minute; whereas, both before and after, it ranged from 140 to 154."

"2dly. *Sound of the Circulation in the Gravid Uterus.* This is the sound which has been characterized by the name of *souffle placentaire* by Kergaradec, and by the German accoucheurs by that of *Placentargeräusch,* (placental murmur.) It is much more easy to detect by auscultation than the other, and especially by the ear alone. It was all very excusable to suppose that this sound, which is chiefly perceived towards the fundus uteri, and frequently at the spot where the placenta is usually attached, was produced by the active and sonorous circulation of this vascular mass; and, until very lately, no peculiar objections have been raised against it. Haus, it is true, expressed a suspicion that this sound might be produced by the aorta and iliac arteries, but did not venture to give a decided opinion; and Ulsamer, who has given some really excellent remarks, and who came very near the truth, could not bring himself to differ from the authority of the French observers, but has retained the erroneous name of placental pulsation. The accurate and successful investigations of Schottin and D'Outrepont, and especially those of Kennedy and Dubois, with which our own observations fully agree, first proved beyond all doubt that the sound in question did not point out the situation of the placenta, but that it depended upon the vascularity and arrangement of vessels peculiar to the gravid uterus, and that it was exclusively produced by this. This sound is only to be heard in the gravid uterus, and may be perceived in most parts of its anterior wall: it is most distinct at those spots where the vessels have undergone the greatest increase of size and degree of contortion, viz. about the fundus, and especially at its sides. We shall not venture to determine which side is most favourable for auscultation; but of this we are perfectly certain, that it is very far from being always on that side at which the placenta is afterwards found attached. This circumstance, as also the fact that the above sound may be sometimes heard in directly opposite parts of the uterus, sometimes over the whole extent of its anterior wall, and even at the lowest part of its inferior segment, (a fact we have frequently observed in multiparæ,) and also, of which there can be now no doubt, the pulsations having been heard in cases where it was ascertained that the child was dead, and even in women shortly after labour, (Kennedy and Dubois) prove unequivocally that the placenta has nothing to do with these '*battemens avec souffle*,' as they have been termed by the French."

Professor Hohl follows the views of the French authors, and attributes the above-mentioned sound to the circulation in the placenta, or, at least, in that part of the uterus where the placenta is attached. Whatever Dr. Kennedy's views may have been, they have been considerably modified in his "Observations on Obstetric Auscultation:" he says, (p. 69,) "upon the transmission of the blood through the arteries of that part of the uterus to which the placenta is attached, the phenomenon in question, the souffle, principally depends:—we say *principally*, because it appears that it may also be produced by the passage of the blood at the lateral part of the uterus, above alluded to, without the placenta being attached directly to that part:" and, in the following page (70), he says, "The placental sound is present in pregnant women only while the uterine circulation is connected with that of the placenta, and ceases when the vessels which serve to sustain this connexion are no longer pervious; a fact which we can ascertain by examining a woman shortly before parturition, when we may observe this phenomenon in full energy; and again when the uterus is empty and perfectly contracted after delivery, or when the fœtus, having died *in utero*, a complete obstruction in this system of vessels is produced; in which cases, not the slightest vestige of the phenomena can be discovered." An apparent contradiction occurs a few lines further on, respecting which we have never been able perfectly to satisfy ourselves. "It is always heard either in that part of the uterus to which the placenta is or *has been* attached." Again, at p. 222, he says, "Cases occasionally occur, however, in which the utero-placental circulation appears to be kept up very freely for some time after the death of the fœtus; and, whilst this is the case, the souffle neither ceases, nor is it observed so completely altered in its character." Dr. Kennedy does allow that, after labour, where the uterus is not firmly contracted, and soft enough to admit of blood circulating through its structure, a distinct souffle will be perceived. With this view we fully agree, and, from observations which we made some years ago relative to the size of the uterus at different periods after labour, we can easily account for the souffle heard at this period. The pulsation which is communicated to the uterus after labour has not escaped Dr. K.'s notice.

This murmur of the uterine circulation may be heard quite as soon as, or even at an earlier period, than the pulsations of the fœtal heart; "at least," as Professor Kilian observes, "we can often hear the one quite distinctly when the other is scarcely perceptible." Professor Hohl has never been able to detect the sound of the uterine circulation before the fourth month; but Dr. Kennedy has given some very interesting cases, where he was able to hear it with certainty at the twelfth, eleventh, and even in one case possibly at the tenth, week. We should be inclined to use this fact as a further corroboration of Professor Kilian's views. At this early period it is well known that the chorion is almost entirely covered with the tufted venous radicles which form the future placenta: they are beginning, it is true, to disappear from the lower part of the ovum, but still by far the greater portion is covered with them: in fact, there is no placenta at present; the placental decidua does not yet exist; the peculiar placental circulation is not yet established: the souffle, therefore, here can only be produced by the circulation in the parietes of the uterus; and yet none of its vessels have attained any thing like the size, or display those intricate contortions, which are observed at a later period. Surely, if a distinct sound is produced at this early period of uterine development, we are justified, *a priori*, in expecting to find the souffle at every point of the uterus within reach of our stethoscope, at a later period. Our own observations have for some time unequivocally led to this conclusion, and we could have wished—and we say it with every feeling of respect,—that so experienced and accurate an observer as Dr. Kennedy had come to a more decided result.

With regard to the period at which the pulsations of the fœtal heart can be first heard, all agree that they can seldom be detected before the beginning of the fifth month, and are then so faint as to require great attention and patience. M. Hohl has devoted a long and wearisome chapter to the relation between the fœtal pulsations and the mother's pulse, and has, in our opinion, wasted a great deal of time in instituting a series of observations to prove that the fœtal pulsations are entirely independent of the mother's pulse. After having examined the two pulses with the patient supine, sitting, or standing, he actually auscults her when asleep, and gravely laments that he had not an opportunity of doing it while she was dreaming. He thinks that the temperature of the mother has some effect on the fœtal heart, but so little as to be very uncertain. Passions and affections of the mind, spirituous liquors, &c. have no effect on the fœtal heart. In cases of small-pox, the fœtal pulsations continued unaffected, but, where petechiæ appeared, a change was soon perceptible, and they quickly became inaudible. In a very severe case of hæmorrhagia petechialis, with bleeding from the gums and bloody urine, M. Hohl heard the fœtal pulse distinctly on the 8th of the month: the woman sickened during the night, and, on the following day, the appearance of the skin already showed the character of the disease. He had distinctly heard the double pulse early that morning, although weaker, but by noon it had disappeared: no sound was to be heard throughout the whole uterus. The patient died on the 12th. In mild cases of Asiatic cholera, no change was observable in the fœtal pulse; but, where the prostration and anxiety were very great, and the pulse at the wrist imperceptible, the sound of the fœtal heart became much quicker, and soon stopped.

Professor Hohl has had the opportunity of ausculting two cases where menstruation continued to appear during pregnancy: in one case it ceased at the end of the fifth month, in the other at the end of the seventh month: in both the discharge was moderate, but perfectly regular in its appearance.

"With regard to the fœtal pulse," says M. Hohl, "no change was observable; which is the more remarkable, as a considerable excitement appeared throughout the whole vascular system of the patient. The souffle not only participated in this periodic exacerbation, but presented also a remarkable phenomenon, which I have only observed in labour during the presence of a pain, viz. that the tone of the pulsations rose periodically above the usual pitch, and was accompanied with a peculiar strong piping sound, as if from separate vessels: the intensity of this sound appeared to me to be in direct proportion with the increased or diminished congestion of the uterus, and seems to mark the commencement of labour, which usually comes on at what would have been a menstrual period."

During labour, a considerable variety is heard in the tone, locality, and number of the pulsations, especially of the uterine circulation. This latter becomes stronger and more distinct, and remarkably variable in its tones, just before a pain comes on: even if the patient were inclined to conceal her pains, this peculiar change, and more especially the rapidity of the beats, would enable us to ascertain the truth. "The moment a pain begins," as M. Hohl observes, "and even before the patient herself is aware of it, we hear a sudden short rushing sound, which appears to proceed from the liquor amnii, and to be partly produced by the movement of the child, which seems to anticipate the coming on of the contraction. Almost at the same instant all the tones of the uterine circulation increase in intensity; other tones, which had not before been heard, and which are of a piping resonant character, now become audible, and seem to sound through the tube of the instrument, just like a string which has been twanged, and drawn tighter whilst vibrating."

This alteration in the tone of the uterine circulation is very remarkable, and it has more than once puzzled us to account for it: we had been in the habit of comparing it with the sound which a stone produces when thrown obliquely so as to fly in repeated bounds over an extensive sheet of ice; each time that it strikes the ice, it produces a short sharp twanging sound, exactly similar to that of the uterine circulation at this time. M. Hohl's comparison, however, gives an excellent idea of it. Dr. Kennedy, also, in one or two cases, has observed a metallic resonance in the pulsations of the fœtal heart, but cannot account for the cause of it. To return to M. Hohl's observations.

"As soon, however, as the pain has reached its summum of intensity, and again begins gradually to disappear, the murmuring character of the pulsations (uterine) returns as gradually, sounds as full as at the beginning of the pain, and has now its former tone as before labour, only somewhat louder. These phenomena occur if the pain be a genuine labour-pain, and runs its course regularly; but, in spurious or irregular pains, it is quite different: the sound remains unaltered, or increases only for an instant."

Neither the increase of the pulse nor temperature of the body, which are observed during labour, have any effect upon the fœtal heart. During every pain, the pulse and uterine murmur undergo a slight but regular series of changes; as the pain increases, the rapidity of the pulse increases also, it attains its height with the pain, and again diminishes with it, and continues at its former rate until the pain returns. The more regular the pains are, and the more gradually they rise to their height and again diminish, the more distinctly will this phenomenon be observed. "We may," as Prof. Hohl observes, "reverse it; the more distinctly the increase of sound betokens the approach of a pain, and the more regularly the beats increase in rapidity, and the more decidedly they reach a certain intensity, remain there for a little, and again gradually diminish, the more genuine will the pain be, the more completely will it reach its full power, and the more efficacious will be its action on the progress of labour." M. H. has collected, with great industry, a considerable number of observations to prove this point, the results of which are very interesting: they are, it is true, needlessly diffuse, but this fault is less remarkable wherever the matter is so good.

We must, however, pass over another of those deserts which the reader occasionally meets with in Professor Hohl's work: a few further observations are given as to the relation between the pulse and course of the pains, which are interesting, and an ingenious tabular form is given to show this connexion.

Our author considers that the *souffle* is only heard at that spot of the uterus where the placenta is attached, and gives sundry reasons for his being of this opinion. He says that we shall hear the souffle over the spot where the placenta is attached, which we admit; but when he says that the souffle does not extend beyond the circumference of the placenta, and is not heard elsewhere, this we must crave permission to deny: our reasons for saying so have been already stated. He has devoted an equally long chapter to prove that the double pulsations arise from the fœtal heart; and, although this prolixity is both wearisome and needless, he has interspersed several very interesting and valuable cases, especially two cases of triplets, in the latter of which the patient was ausculted carefully during labour. He agrees with Dr. Haus in saying that it is impossible to hear the pulsations of the cord in the uterus: the observations however of Dr. Kennedy, which were published during the same year (1833), and which have every appearance of being correct, lead to a very different result.

"In some cases," says Dr. Kennedy, (p. 121,) "where the uterus and parietes of the abdomen were extremely thin, I have been able to distinguish the funis by the touch externally, and felt it rolling distinctly under my finger; and then, on applying the stethoscope, its pulsations have been discoverable, remarkably strong; and, on making pressure with the finger for a moment on that part of the funis which passed towards the umbilicus of the child, I have been able to render the pulsation less and less distinct, and even, on making the pressure sufficiently strong, to check it altogether."—"The funis exhibits another phenomenon, which, on my first paying attention to obstetric auscultation, embarrassed me a good deal to find a rational explanation of,—namely, a *souffle*, which is occasionally met with, distinct from that of the placenta, and differing from it in character as well as situation. It is heard generally at a point of the uterus quite distinct from the placental souffle, is weaker and shorter in its duration, wanting in great measure the very protracted sibilous or hissing sound existing in so marked a degree in the other, and corresponding in frequency, not with the pulse at the wrist of the mother, but with the fœtal pulsation or the action of the child's heart."[*]

The eighth and last chapter of Professor Hohl's first volume is devoted to the application of auscultation to practical midwifery: it commences with it as a means of diagnosis in pregnancy. We should have supposed that this subject had been already sufficiently discussed; not so however in M. Hohl's opinion: every symptom which has ever been considered as a symptom of pregnancy is dwelt upon as if the author were afraid we should arrive at the end of the chapter too soon. He has given two or three interesting cases of doubtful pregnancy, where the usual changes in the form of the os uteri had been remarkably deceptive, and where auscultation had shown the real nature of the case. On the diagnosis of plural births, the stethoscope offers but little assistance, in comparison to what it does in other cases. If two different sets of fœtal pulsations can be heard, no one, of course, in his senses, would doubt the presence of more than one child; but we cannot always expect that circumstances will be so favourable as to enable us to hear both at the same moment. One child may be so situated as to be out of reach of the stethoscope, or it may be dead. The souffle is said to be more extended and louder; but any one who has had the slightest practice in obstetric auscultation will have observed that there are no two cases in which the souffle is exactly alike, even where there is but one child. In triplet pregnancy, the sounds must evidently be very remarkable. The powerful resonant souffle, the confused pulsations of *at least* two fœtal hearts to be heard at the same moment, must afford a most interesting subject of investigation to the auscultator. As a means of diagnosis in extra-uterine pregnancy, auscultation offers but little hope of being useful; and we confess that we should place much more faith in the general history of the case, and a careful consideration of the symptoms, aided duly by manual exploration, than in the stethoscope. Professor Hohl has entered upon the various signs of this extraordinary deviation in a very insufficient manner, and would, we think, have done much better if he had left them out altogether.

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[*] The reader will observe, that, in the foregoing observations respecting the cause of the *souffle* accompanying pregnancy, we have taken no notice of the recent opinion of M. Bouillaud, that it is attributable to the compression of some one or more of the large vessels of the abdomen, as the hypogastric and external iliac arteries, by the uterus charged with the product of conception. (*Traité clinique des Maladies du Cœur; Paris*, 1835.) Our reasons for this omission are, first, that our observations were written before we had an opportunity of seeing M. Bouillaud's work; secondly, because the subject is not noticed by the authors of the works under review; and, lastly, because there will be an opportunity, either in the present or next Number of this Journal, of more particularly considering this point, when noticing the recent works of MM. Bouillaud and Raciborski. We would, at present, only observe, that we do not consider the question as completely set at rest, and reserve to ourselves the right of changing our opinion, on the production of evidence which shall appear to us more conclusive than that which has hitherto led us to adopt the views which we have stated in the text.—Rev.

In ascertaining the position of the child, we may conclude with tolerable certainty that when we hear the fœtal pulse on the left side, the occiput will be turned towards the left foramen ovale (supposing that the child presents with the head), or, in other words, that the head will be in the first cranial position; and that where we hear it on the right side, we shall find the head presenting in the third, and passing into the second position. With these views we are glad to find that M. Hohl fully agrees; but he gives some others which are both new and curious, and, although of themselves highly interesting, still require further investigation. He considers that the placenta is almost always attached to that part of the uterus to which the anterior surface of the child is turned; so that, according to his opinion, we shall always hear the souffle in the opposite direction to the fœtal heart. With this view we cannot possibly agree; for, if it were correct, we should generally hear the souffle on one side, and rather backwards, instead of forwards, which is by no means the case; for we can hear it fully as often, nay more frequently, on the anterior wall of the uterus than elsewhere: it only tends to prove that the principle with which he set out, viz. that the souffle is only to be heard where the placenta is attached, is incorrect.

There can be no doubt but that the stethoscope offers a most invaluable means of diagnosis in cases where it is required to ascertain whether the child be alive or not. Few subjects are of greater importance, and yet few have been involved in greater difficulty and obscurity: even the sensation of a heavy weight rolling about the abdomen as the patient moves or turns, cannot be looked upon as a certain proof of the child's death. Several cases have occurred in Dr. Kennedy's practice, where, in spite of this symptom, on which so much confidence has been placed, the fœtal pulsation proved the child to be alive. We must confess that at one time we placed considerable reliance on this symptom, and, even although it had occurred two or three times where the result of the labour showed that the child was alive, still we looked upon these as rare exceptions to an otherwise undeviating rule. We believe that, to the *practised* auscultator, the stethoscope affords a *certain* means of ascertaining whether the child be dead or alive, inasmuch as when he is not able anywhere to detect the fœtal pulsations, he may rest satisfied with this negative sign, and conclude that it has ceased to exist: the souffle, becoming fainter, will also assist his diagnosis, but is not of such certainty, on account of the great variety of tones which it presents in different subjects. The usual list of symptoms which is given in works of midwifery is of little service: even taking them conjointly leads us to an uncertain diagnosis, and separately they are not worthy of consideration. The period at which it is generally most important to ascertain whether the child be alive or dead is *during* labour, when, from the swelling of the cranial integuments, we know with certainty that it must have been alive in the early part of labour, and where, from the difficulty of the case, we are unwilling to risk applying the forceps, without feeling assured that we are putting the mother to this danger and suffering for the sake of a living child. How often must it have been the lot of the accoucheur to feel the most painful uncertainty on this point, and to know that he must only be guided by the state of a mother's powers as to whether he should put her to the trial of a severe forceps delivery, when, if he could have determined that the child was dead, he might have lessened the head and quickly terminated her sufferings.

The diagnosis of the child's death by auscultation, as being a negative sign (the *absence* of the fœtal pulse), can only be available and trustworthy where the practitioner, by constant attention to the subject, has acquired such experience and tact as to make it nearly a matter of certainty that, if there be a fœtal pulse in the uterus, it cannot escape his ear. There are probably cases where, from a variety of circumstances, it will be rendered difficult, and at times uncertain; but day after day convinces us that these difficulties and sources of uncertainty will in great measure disappear, in proportion as our experience and correctness in ausculting increase. The observations of Dr. Kennedy on this subject are of great importance and merit, and afford a striking example of what the stethoscope can do in experienced hands.

Where almost every acknowledged sign of the child's death has been present,—when, in all her previous labours, her children have been born dead, and, from such a repetition of all her former symptoms, the patient has felt convinced that she should be again exposed to the disappointment of bearing a dead child,—the stethoscope has brought to her the glad and certain tidings of her infant's life, and the result of her labour has proved the correctness of its diagnosis. Even when the prolapsed cord has been felt without pulsation, or only with such an uncertain trace that it could be scarcely felt by the finger, the fœtal pulse has been heard, the forceps have been applied, the child delivered, and resuscitated. On the other hand, where the general appearance of health, the firm full breasts, the entire absence of uterine flaccidity and sensation of a weight rolling about the abdomen, and every other symptom indicated that the child was alive, the absence of fœtal pulsation has warned the accoucheur of its death, and the labour has been terminated by the birth of a dead child, which, from its appearance, had ceased to exist for some time previously. These are facts which we earnestly recommend to the consideration of our professional brethren.

Professor Hohl has given some observations on morbid states of the ovum as indicated by the stethoscope; viz. that in cases where, during labour, the souffle has been remarkable for its resonant piping sound, he has found the placenta full of little deposits of phosphate of lime; and that, in other cases, where the patient has complained of a burning pain at one side of the uterus, he has heard the souffle of a peculiar tone, and has found the placenta hypertrophied or otherwise changed. These, and other observations of a similar nature, must be for the present received with due caution, and we refrain therefore from giving any opinion upon them. His observations on inflammation of the amnion are, we think, rather hazardous. The remarks on the use of the stethoscope in asphyxia of new-born children contain nothing new. An interesting case or two of the sort are given in illustration; but we infinitely prefer the observations on this subject by Dr. Kennedy, in his work published almost immediately after the volume we have now been reviewing.

Professor Hohl's second volume is divided into two parts,—*das Sehen* and *das Fühlen, (seeing* and *feeling,)* or, what we may Latinize by *Exploratio per Visum, et per Tactum.*

We need scarcely observe, that both of these are subjects of great importance to all branches of the profession, but essentially so to those practising midwifery. The experienced eye is not less necessary—we may say invaluable—to the practitioner, than a similar correctness of the ear and of touch, and frequently, at the first glance, suffices to help him on some considerable way in forming his diagnosis. M. Hohl has most appropriately quoted from a French author, "Le visage est un livre ouvert, ou les autres peuvent lire a chaque instant ce qui se passe dans notre âme." This observation is not confined merely to the face: with a medical man, it extends to the whole figure of the patient,—her gait, carriage, manner; all of which require a short but scrutinizing glance, previous to our entering on a more minute investigation. "The surrounding objects," as Professor Hohl remarks, "ought not to pass unobserved: they exhibit the circumstances under which the patient is living, her occupations, mode of life, &c."—"It is of the greatest importance to pay attention to the peculiar constitution and habit, the age and temperature of the individual: it is a field, as Naegelé observes, still capable of much cultivation; and, the more attention it receives, the more important and valuable will be the fruits."—"The experienced eye will not find much difficulty in forming a tolerable estimate of the patient's age, and in ascertaining her habit and general temperament: it must scrutinize the whole form and character of her person; its proportion, size, precocious or tardy development." We should go on with the description of the general external appearances of a patient where the pelvis is deformed, but we prefer giving our readers the original passage from Professor Naegelé's "Lehrbuch," from which it was evidently taken.

"The chief symptoms are, the lower jaw projecting beyond the upper, and a very prominent chin; teeth transversely grooved; unhealthy appearance; pale ashy look; diminutive stature; waddling gait; the chest thrown back; the arms hanging behind; the abdomen projecting; distortion of the spine and breast; thick wrist and ankle joints. Curvature of the extremities, especially the lower ones, where the spine is straight, is of great importance: where the lower extremities are crooked, the pelvis is generally faulty." (§ 144.)

"When we see," observes M. Hohl, a little further on, "the light *but* firm step of the female figure, we naturally conclude that the inclination and size of the pelvis are in the proper degree; that the uterus and parts of generation have the normal position, &c." We know the look of a deformed person; but her peculiar cast of features, the anxious and generally astute expression of her countenance, is a character of face not so frequently observed where the pelvis is deformed as where there is curvature of the spine; and we need scarcely add, that the one species of deformity is *not* frequently accompanied by the other. The general character and appearance of a woman with a narrow pelvis has been already sufficiently marked in the short but graphic description of the distinguished Naegelé, and we cannot add to it without diminishing its merits.

The practised medical man will instantly detect, as he enters the room, the flushed face and anxious eye of the patient, the suspicious-looking dram bottle in the corner, the heavy load of bedclothes; or, in other cases, the pale face, the sunken eye, the expression of exhaustion, the eager longing for cooling drinks, the fruitless pains. Even if she be asleep, the first glance will detect the half-closed eye, the restless muscles of the face, the uneasy posture: he will instantly perceive if her colour be of its natural degree, the features swollen or collapsed. M. Hohl thinks that we may even distinguish *primiparæ* at sight; but this would be rather a hazardous species of diagnosis in this country, especially among the upper ranks, where the youthful freshness of form and colour are so remarkably preserved. We perfectly agree with him, nevertheless, that no point of observation should be overlooked or thought lightly of: the most (apparently) indifferent objects are capable of becoming valuable, when we least expect them, and only serve to prove that we cannot watch nature too closely. Although we may not be able to distinguish a primipara by her look, yet there are other points connected with labour, where an attentive glance will tell us a great deal. How often, on entering the room during a pain, have we not instantly felt assured, from the manner and expression of the patient, that the membranes had burst, that the head had passed through the os uteri, and entered the vagina? The tone of the voice, it is true, assists in these cases, and ought not to be overlooked. An experienced observation is of infinite use in cases where any attempt is made at imposture, or where the patient attempts to conceal the commencement of her labour: the slight involuntary start, the half-suppressed shrinking, the change of countenance, &c. can seldom escape an attentive observer. In prisons, and other public institutions, its absolute necessity is felt daily.

At pages 20 and 21, we meet with observations respecting obliquity of the uterus, as a cause of malposition of the child, which, in a work like the present, that, despite of its prolixity, we must in justice say contains much valuable information, we had not expected. It is not fair to the character of the German obstetricians to allow this to pass over without notice, because we can, with equal pleasure and satisfaction, assure our readers that they, for the most part, entirely oppose this old, incorrect, and long since disproved theory; a theory which was directly contradicted by Chapman, now exactly a century ago, and has since been distinctly shown, not only by Ould, but also by Boer, Mursinna, Dewees, &c., to exist merely in books, and not in nature. We are sorry that Professor Hohl should have retained such a worthless remnant of by-gone errors, more especially as he is evidently well acquainted with the mechanism of parturition, and appears to be a man of considerable experience.

We pass over some unimportant remarks respecting the discoloration of the linea alba, as a sign of pregnancy, in which little or no confidence can be placed; and will give his own words, where he speaks of the areola.

> "The immediate vicinity of the nipple, viz. the areola, is very variously coloured. Where the skin is delicate and white, I have seen it of a rosy red colour, like the lips; and this is more frequently the case with *primiparæ* than with those who have already borne children; but we also occasionally see it brown, dark brown, sometimes even almost black. I have seen it at times covered with small hairs: only one patient remarked that she had never observed this appearance before; but, whether these hairs fall off afterwards or not, I cannot say. The areola varies also in size. I have seen it forming a ring scarcely half an inch in breadth round the nipple. Generally speaking, however, it is broader, and I have met with cases where it was even two inches in breadth. The margin is mostly well defined, but occasionally it passes irregularly into the white colour of the surrounding skin. I have seen women, who

had never had children, where the colour of the areola underwent a change at each catamenial period."

There has been a good deal of discrepant opinion respecting the correctness of the areola as a sign of pregnancy, chiefly, we suspect, owing to a little want of judgment on both sides. We believe that, in a young and tolerably fair woman, pregnant for the first time, the change in the colour of the skin round the nipple is very distinct, and that this may be a sign on which we may rely with considerable confidence; but, in dark swarthy complexions, and especially in those who have borne already, it seldom regains its former colour, except perhaps in the genuine blondine. With regard to the nipple being as it were inflated, as Rœderer describes it, this may be all very true: we have seen it occasionally; but in this country, at least, the presence or absence of this sign must not be a guide: the pressure of the dress is too serious an obstacle to its regular development to allow the display of its true character.

At page 28, M. Hohl enters into a minute detail of the hypotheses which the ancients entertained respecting the means of prognosticating as to which sex the child was to be of. We cannot help expressing our surprise, as well as regret, that, in the nineteenth century, an author should seriously discuss the various (and to many we may add, disgusting,) theories which have been broached in former times of ignorance and superstition, not only respecting the signs by which we may foretel the sex of the child, but also the means to be taken for securing its being of the one or other sex at pleasure. Our readers will scarcely believe that all the old notions of Hippocrates, Moschion, Albertus Magnus, &c., respecting the peculiar powers of the right and left testis and ovary are gravely discussed, and works quoted, the very titles of which ought to be a sufficient veto to their being introduced into the pages of a book like this. The influences of the moon, before or after the full, are seriously considered; and even a couple of pages are devoted to a long series of observations on this point by a Dr. Löwenhard, with the prudent conclusion on the part of the author, that the moon has no effect in determining whether the children are to be boys or girls. Professor Hohl should have remembered the good old adage, "*aus Nichts kommt Nichts;*"—ex nihilo nihil fit;—for he would have added not a little to the value of his book by leaving out the whole subject. Respecting the effects also of the moon on conception, we must give a similar opinion.

We would not be supposed to be indifferent to these interesting but mysterious points of physiology: we merely complain of the manner in which the subject is treated, and the quantity of worse than useless matter with which he has thought necessary to load his book. The only rational attempt to solve the question is by the celebrated Carus, of Dresden, in his "Gynakologie;" and even he has touched upon it more in the way of hint than serious discussion. Carus is disposed to think that a predominance of vital energy in one of the parties, at the moment of conception, has an influence in deciding the sex of the embryo; and this has been the prevailing opinion among men of rank in their profession in this country. It is fair, however, that we should state M. Hohl's own opinion on this point,—more especially as it is given with no little confidence, and several cases are mentioned, the result of which certainly agrees with the data upon which he founds his prognosis.

> "A woman is mostly pregnant with a male fœtus when her colour remains quite natural; except, perhaps, where it is somewhat changed by small brown spots upon the forehead and about the mouth; when the linea alba either divides the abdomen by a narrow brownish yellow line into two halves, or where this appearance is entirely wanting, and the umbilicus retains its usual colour. On the other hand, she is pregnant with a female fœtus, where the colour of the face is either generally altered; where she has the look of a patient suffering under disease of the liver; where large spots are observable upon the forehead, like freckles, extending across the bridge of the nose, and forming a circle round the mouth, or merely bound the edge of the upper lip; or when these spots appear distinctly only at one or only some of the above-mentioned points. The linea alba is here of a bright brown or yellowish colour, and appears much broader than in the other case: the navel, and its immediate vicinity, are also generally more coloured than where she is pregnant with a male fœtus. Freckles and other spots upon the skin, as also the irides, retain their colour during pregnancy, where there is a boy; but change colour, and become more distinct, when the fœtus in utero is a girl: this," he adds, "is a certain rule."

At page 57 there is a species of note, or what we should have rather called *digression*, had it not been prefaced by three questions relative to the above quotation, which he professes to answer. The questions are as follow:

> "1. How do we explain the discoloration which takes place in pregnancy?
>
> "2. What is the connexion which exists between the varieties of this discoloration and the difference of sex?
>
> "3. If this connexion can be proved to exist, can the production of the one sex or the other be influenced?"

The explanation, which runs on for forty pages, and that too in a smaller type than the rest of the letter-press, is a strange medley of hypothetical reasoning, strained beyond all bounds to meet the wished-for point: viz. how to prognosticate the sex of the child. In the course of these observations, he gives the reader some interesting tables of 195 cases, in which the age at which the catamenia first appeared, and the manner in which this took place, are noted. Tables of this sort, if drawn up with accuracy, which these appear to be, are always valuable; and with this view we venture to insert them; but the utility in the present instance is considerably diminished by our being ignorant of the peculiar habits, constitution, &c. of the individuals from whom the observations were furnished.

1.

The Catamenia first appeared

1	at the age of 12	in 3,	with derangement of health in . . 0
2	... 13	... 10	... 3
3	... 14	... 27	... 3
4	... 15	... 33	... 10
5	.. 16	... 41	... 5
6	... 17	... 28	... 5
7	... 18	... 21	... 4
8	.. 19	... 11	... 4
9	... 20	... 12	... 7
10	... 21	... 5	... 4
11	... 22	... 2	... 1
12	... 23	... 1	... 1
13	.. 24	... 1	... 1
	Total	195	

4.

The Catamenia returned

1	every 14 days ...	in 5 cases.
2	... 3 weeks ...	... 43
3	... 4	... 138
4	... 6	... 1
5	... 2 to 4 weeks	... 2
6	... 3 . 4 ...	... 2
7	... 4 . 12 ...	... 1
8	... 4 . 18 ...	... 1
9	... 6 . 10 ...	... 1
10	... 8 . 12 ...	... 1
	Total	195

2.

The Catamenia were

Profuse	..	in 83
Moderate	..	. 71
Sparing	..	. 40
Variable	...	. 1
	Total	195

3.

The Menses continued

1	... 1 day	...	in 2 cases.
2	... 2 days	...	. 21
3	... 3 ..	...	. 54
4	... 4 ..	...	. 18
5	... 5 ..	...	. 11
6	... 6 ...	...	. 6
7	... 7 ...	...	. 2
8	... 8 ...	...	. 39
9	... 9 ...	...	. 1
10	... from 1 to 2 days	in	1
11	... ... 2 . 3	...	7
12	... ... 2 . 6	...	1
13	... ... 3 . 4	...	10
14	... ... 3 . 5	...	2
15	... ... 3 . 6	...	1
16	... ... 3 . 8	...	1
17	... ... 4 . 5	...	4
18	... ... 4 . 8	..	1
19	... ... 5 . 6	...	2
20	... .. 5 . 7	...	1
21	... ... 5 . 8	...	4
22	... ... 6 . 8	...	5
23	... ... 8 . 10	...	1
		Total	195

The rest of these forty pages of small print is quite beneath notice; and we must only request the English readers of this work not to judge of the state of obstetric science in Germany by what they find in this portion of M. Hohl's work: they must not suppose, for instance, that it is a prevalent notion in Germany that women contain more hydrogen and venous blood than men, and that male children are begotten in consequence of the female parent being in a state of positive electricity. It is always praiseworthy to investigate the hidden mysteries of nature, as far as possible; but this is not the way to set about it. The fact, that in hot climates the number of female children born preponderates, and in cold climates the contrary, is curious: but we must not lose ourselves in reveries, and fancy that we are thus investigating truth.

The chapter on Diagnosis per Visum is concluded with a few observations concerning the child. The appearance of the funis, and the changes it undergoes from the moment of birth until it is thrown off, are minutely described; and, as we do not recollect having seen them so well given elsewhere, we add a short translation of the passage.

"The new-born child presents several evidences of its recent birth, and the period at which this took place: we will, however, confine ourselves merely to the appearance which the funis, the skin, the eyes, and meconium present. When it ceases to be a fœtus, on account of ligature and division of the funis, the pulsation will continue to be felt in the fœtal extremity of the cord, for a space of from eight to ten minutes, according as the breathing has been fully established or not. Where this portion of the funis is in contact with the skin, the latter surrounds it like a ring, having the same colour with the skin in other parts.

"This ring at first is reddish, after a little is somewhat white, but soon becomes of an inflammatory red. This redness remains from twelve to twenty-four hours after labour; disappears and appears again in the course of sixteen or thirty-six hours. The ring gradually retracts, becomes deeper at its lower half, and forms at the upper part a thick crescentic edge. The funis now appears to spring from a hollow, in which a ring of pus, with a red margin, surrounds it at its insertion. This portion of the cord is at first white, here and there of a bluish tinge, and still firm. In the course of twenty-four hours after birth, (seldom before, and never after,) it begins to be flaccid. By the sixth day it has become dry; seldom sooner. It is now flat, transparent in places where there are no vessels; for, where these pass, we can distinguish streaky lines, which are not transparent. At last it falls off; the surface, to which it was attached, is covered with pus, along the edge of which a number of little bloody, or only bright red, points may be observed; the spot to which the cord was attached looks like a large pea at the bottom of the hollow, the surface being drawn downwards and inwards, so that the upper part of the circle passes into the skin; whereas the lower portion forms a small crescentic fold, which partly conceals the hollow."

The description of the appearance of a premature child, as far as it goes, is very fair; but Professor Hohl has left out two or three important points of diagnosis which ought to have been noticed: for instance, in male children, which have been carried the full time, the scrotum is corrugated, not peculiarly red, and generally containing the testes; in female children, the nymphæ are covered by the labia: whereas, as Professor Naegelé observes, in premature children the testes are not always down, the labia are apart, and the nymphæ protrude; and in both sexes the external generative organs are remarkably red.

As to the appearances which a child puts on when born *too late*, this is rather beyond our comprehension. The whole is described as regularly as if the partus serotinus were a thing of every-day appearance, instead of being a fact the correctness of which has been questioned by the highest authority. The quotations which our author has given in a note from the Gardner Peerage cause might have been spared: they have been long since viewed in their proper light in this country.

The second, and by far the largest portion of this volume, is devoted to *Das Fühlen*, or what, as already said, we may call "*exploratio per tactum*"—(*le Toucher* of the French.) The importance of this subject cannot be impressed too forcibly on the mind of a young practitioner: it is not sufficient that he should be merely able to feel the os uteri, and ascertain its degree of dilatation during labour, or to satisfy himself that the head presents because he feels a large hard mass beyond:

> "He must learn to know," observes Professor Hohl, (p. 117,) "the deviations which result from variety in the size, constitution, fibre, and age of the person, the posture of the body, and particularly the *inclination* of the pelvis. He should minutely investigate the changes produced by pregnancy and labour, and make himself acquainted with the natural condition of the parts which form the subject of obstetric examination, as respects their hardness or softness; their elasticity, form, and shape; their position, direction, roughness or smoothness, moisture or dryness, and their temperature. Let him learn to distinguish the changes which these parts present before, during, and after menstruation; during pregnancy; during and after labour; their characters in health and disease; the appearances they present after the change of life in women who have had children, and in those who have not. Let him learn to ascertain the weight, and mobility, and bulk of the uterus; the various movements of the fœtus; the different parts of it, their position, and the parts *belonging to* the fœtus."

His enumeration of the various questions and points of diagnosis which the accoucheur will be called upon to solve by manual exploration, is perhaps necessarily long; the nature of the subject demands it, and, if our limits would have permitted, we would have willingly translated it for our reader's perusal. We pass by a quantity of what the author calls general rules; such as, how the practitioner is to behave, what preparatory arrangements he is to make; that he is not to pull off his coat, or to stare at his patient in the face whilst examining, except it be under suspicious circumstances; that he should carry a box of pomade in his pocket, &c.; the greater part of which we shall beg to leave under the head of what a highly respected friend of ours upon the continent would term "*Kram.*" It is useless to spin out long rules for the behaviour and conduct of a practitioner in these cases: he must behave with honour and with delicacy, and, if he cannot do so, the sooner he quits his profession the better. Many of the author's directions for performing the external and internal examination are quite impracticable, and we are confident would be as little tolerated by the women in Germany as in England. With regard to the position in which the patient is to be examined, this, of course, will vary according to circumstances which are self-evident. In cases of organic disease, displacement, and in the early months of pregnancy, it is desirable that she should be examined standing. During or shortly after labour, and in cases of premature expulsion, &c., it will be necessary that she should be in the horizontal posture, and generally this is most convenient when she is upon her left side. The only rule which we have found it necessary to give a beginner, when examining a patient standing, is to hold the forearm as perpendicularly as possible, so that the elbow is completely covered by the clothes as he kneels before her, and directly under the os externum. The hand should be strongly supinated: by this means the index or examining finger passes along the posterior edge of the vulva, whilst the other fingers and thumb occupy the pubal arch, and thus allow the operator to reach much further than he otherwise would do.

With regard to measurement of the pelvis by instruments, whether externally or internally, we shall not stop to consider the various pelvimeters which have been invented at different times; they have, as a celebrated teacher of midwifery truly says, only one fault, viz. that of being perfectly useless. Baudelocque's callipers, (*Compas d'Epaisseur,*) deserves perhaps a better character: it is certainly a useful instrument to determine the external distance from the sacrum to the pubes. Thus, in a well-made woman, it should measure seven inches: we subtract two inches and a half for the thickness of the sacrum and the soft parts covering it, and half an inch for that of the os pubis; thus leaving a remainder of four inches, which is the antero-posterior diameter of the pelvic brim. But, besides a variety in the thickness of the hard and soft parts, whether natural or from disease, it is exceedingly difficult to determine correctly the exact point where the sacrum begins, and a slight obliquity of the instrument either above or below this point will give a very considerable error. The best pelvimeter is the finger of an experienced accoucheur: by constant practice, he knows exactly what portions of the pelvis he can reach easily, with difficulty, or not at all: he familiarises himself with the precise shape of the bones which form its parietes, the curve which they present, the angle at which they stand, and their relative situation to each other: he accustoms himself to measure by the touch the thickness of the soft parts which the pelvis contains, their rigidity, firmness, or relaxation, the degree of swelling which they may have undergone during labour, &c.; and thus enables himself to estimate not only in what degree the pelvis itself is at fault, and what part of it, but also in how far the diminution of space is to be attributed to the condition of the soft parts. The manner in which the head enters the superior aperture will frequently of itself show that the pelvis is contracted, and afford a tolerable notion of the degree in cases of considerable deformity; it is then very easy to measure the precise distance from the promontory to the pubes upon the examining finger.

In speaking of the subjects for the investigation of which the external and internal manual exploration are employed, M. Hohl has arranged them under eight heads: viz. 1st, the examination to determine cases of doubtful sex; 2d, to decide as to the existence of virginity; 3d, the examination in cases of rape; 4th, to determine the possibility of sexual intercourse and conception; 5th, the existence of pregnancy; 6th, examination to investigate various points during labour; 7th, examination of a pregnant female after death; and 8th, the examination after labour.

With regard to the second and third points, viz. ascertaining the existence of virginity, and proving the commission of rape, we can prove little by mere manual exploration. The presence or absence of the hymen has long been ascertained to be no evidence whatever for or against the existence of virginity: a case occurred to us, about a year ago, of a primipara whom we attended during labour, where the greater part of the hymen was still existing. The different conditions of the labia, nymphæ, and vaginal rugæ, are much too uncertain to ground any decisive opinion upon. A slight degree of dyspepsia or other abdominal derangement, or of leucorrhœa, will produce nearly all the changes which M. Hohl considers necessary to observe; and, as to feeling whether the clitoris be still covered by its preputium, we need not make any observation upon it. Few decided changes take place in the female external organs from only one occurrence of sexual intercourse, and little appreciable alteration is produced until the passages have undergone the extreme dilatation which they suffer during labour. As to the changes to be observed by manual examination in cases of rape, our author is right enough when he says that, unless this be performed soon after the commission of the crime, our examination will lead to little or no result; and the difficulty will be much increased if sexual intercourse had previously taken place.

The fifth head, viz. the diagnosis of pregnancy, is, or ought to be, much more interesting, and is a subject which of all others should be handled in a clear, concise, and practical manner; but unfortunately we have to wade through the same excessive verbosity. He divides it into nine questions, on the importance of which we fully agree with him; they are as follows: 1st, is she pregnant? 2d, in what month? 3d, is she pregnant for the first time? 4th, is there more than one child? 5th, is a state of disease combined with pregnancy? 6th, is it extra-uterine pregnancy, with or without uterine pregnancy? 7th, is the fœtus alive? 8th, what is its position? 9th, will the labour be anormal from mechanical obstruction?

In determining the first question, we will not detain our readers with the long and tedious enumeration of the various points to which the practitioner must direct his attention, and upon which the changes are rung with a degree of persevering repetition that is almost exhausting. It is little short of nonsense to suppose that the state of the os externum and the carunculæ myrtiformes, the calibre of the vagina, the swelling of its parietes, its temperature, secretion, the length and condition of its rugæ, are points on which we can fix the slightest data for forming our opinion as to the presence of pregnancy. We cannot agree with him that the temperature or secretion of these parts are so much increased during pregnancy: with respect to the former, we might say the contrary; for we have repeatedly found the vagina of a pregnant woman impart a feeling of coolness to the finger, and it must be a well-known fact to every body who is frequently in the habit of examining per vaginam, that the labia are frequently even cold: this is in some measure produced by the moisture of the vaginal secretion, but we cannot think that this is so increased in quantity during the earlier months of pregnancy as in any degree to justify its guiding our prognosis. This certainly applies to the relaxed females of a great metropolis, or those living in the swampy parts of Holland, &c., where it is a known fact that there is much greater disposition to copious vaginal secretion than elsewhere, but we apprehend that the insufficiency of this as a point of diagnosis applies equally to the more robust natives of other districts. We have examined many hundreds of the author's countrywomen during the last months of pregnancy, as well as at other periods, and are not inclined to make an exception in their favour.

In examining a woman to ascertain the existence of pregnancy, it is desirable to place her in such a posture, that we may examine both] externally and internally at the same moment, and also ensure, as far as possible, the complete relaxation of the abdominal integuments. Some excellent directions have been left us for this purpose by Rœderer, which have been also quoted by the late W. J. Schmitt, of Vienna, in his short but valuable collection of doubtful pregnancy cases. "After the third month, the uterus projects above the pelvis, gradually increases and distends the abdomen; but a careful examination is necessary, in order to distinguish the enlarged uterus from other prominences, because an enlargement of the abdomen from disease may easily be confounded with pregnancy: merely looking at the abdomen will not assist us much in our diagnosis; we must examine by the touch. In order to prevent any chance of uncertainty, the following points should be attended to: we should place the patient upon her back (before she has taken her meals, and having previously emptied the bladder and rectum,) with the head and feet raised above the loins, the heels drawn up to the nates, so as to relax the abdominal parietes; the practitioner should place his hand across the abdomen, so that the little finger is turned towards the pubes, and thumb to the navel. Let the patient breathe deeply, and the practitioner press gently with his hand during expiration; if he feels at this moment a hard globular resisting mass above the pubes, he may be certain that this is the enlarged uterus."

In ascertaining how far pregnancy is advanced, our attention must be chiefly directed to the circular form of the os uteri, its being closed, the smoothness and softness of its edges, (now no longer lips,) the alteration in the shape, size, and substance of the *portio vaginalis;* viz. that part of the cervix which projects into the vagina; a distinction which is very useful, and which we have for some years adopted from the German accoucheurs; the increased size, weight, and diminished mobility of the lower portion of the uterus; and lastly, if it be in the latter months, the contents of the uterine cavity and diagnosis of the presenting part: this must also be combined with the external examination of the abdomen, in order to estimate the height of the fundus above the symphisis pubis, the size and form of the uterus generally, and whether the movements are yet perceptible: these are the chief practical points of investigation to which the practitioner must turn his attention in such cases: but, as to the old, oft-repeated dogma of its being necessary to examine the puffiness or turgescence of the vaginal parietes, the diminution in the size and number of its rugæ, the prolapsus-like duplicatures of the anterior wall, its temperature, mucous secretion, &c. &c.,—all this is, at least, useless in practice.

In deciding whether it be her first pregnancy, our chief attention must be directed to the form and condition of the os uteri. An os uteri which has once undergone the dilatation which takes place during labour, seldom entirely recovers its former shape: it becomes unequal, so that, instead of forming a circular depression, with edges quite smooth, like a dimple, as it were, at the end of the cervix, it forms an irregular-shaped margin, with uneven edges, which are generally hard in places, from the little cicatrices of former labours. These are important points of diagnosis, and have more than once enabled us to assert confidently that the patient had already borne a child, in spite of previous assurances to the contrary. The absence, however, of these effects of parturition,—we mean the perfectly round and smooth depression of the os uteri, as felt in the primipara,—is not always a proof of first pregnancy: we have occasionally, though rarely, met with a similar condition in a patient who had already borne a child. Besides the examination of the os uteri, that of the perineum, and especially its frœnulum, should not be neglected; for this latter rarely escapes being somewhat torn in the first labour. As regards the external examination in determining whether it be her first pregnancy or not, the flaccid abdomen and rugæ in the skin are certainly effects of previous labour which are worth noticing; but it must be recollected, that their presence or absence are not distinct proofs for or against.

Amid the poverty of materials which pervades many parts of this prolix work, we had looked with no small degree of hope to the diagnosis of pregnancy, when connected with a state of disease. The reader will judge of our disappointment on finding the whole of this highly interesting subject comprehended in a space of barely one page. The subject of extra-uterine pregnancy receives a similar allowance of space; but the interesting question as to whether the child be alive or dead before labour is disposed of in ten lines. It appears to us that the author has made a grand mistake, in discoursing, page after page, as to *how* we are to examine under different circumstances, and *how* we are, in this or that case, to attend to the size, and dilatation, and temperature, &c. of the various parts; but the *what* we are to find, and the precise nature of the changes produced, he has somehow managed to leave almost entirely unnoticed.

Under the question as to what is the position of the child, he informs us (as of something original,) that, in face cases, the face, in all probability, does not present until the head begins to enter the superior aperture: this has been long suspected, and we recollect having our attention called to this subject, at least seven years ago, by Dr. Breitenbach, of Heidelberg. When the head presents at the brim of the pelvis in the first position,—viz. the occiput forwards and to the left,—if by any cause the occiput should be prevented descending into the cavity of the pelvis, or the forehead experience unusual facility in entering it, the head will turn upon its transverse diameter, and the forehead, followed by the face, will sweep past the right sacro-iliac synchondrosis, and occupy the pelvic cavity, while the occiput still remains at the brim: in other words, the first position of the head becomes the first position of the face; and the frequency of that face presentation where the chin is turned towards the right side of the pelvis, (first position of the face,) in proportion to those where it corresponds to the left side, (second position of the face,) tends not a little to confirm this view. All originality on this point we must decline conceding to M. Hohl. His rules for ascertaining a case where the nates present, are insufficient and incorrect: it is true that the nates do not descend so far into the pelvis before labour as the head usually does, especially in primiparæ; but this is no proof of a breech presentation: the shoulder may present, and in this case we shall certainly not be able to feel the presenting part until labour has commenced; or the pelvis may even be deformed, and the head presenting, but unable to descend through the brim.

The investigation of various points of interest during labour he divides under the following questions: 1st. Whether labour has really commenced, and will go on? 2d. How far it has advanced? 3d. What are the obstructions to labour? 4th. Is there a second child in the uterus? and 5th. Is the child alive or dead? In the consideration of the second question, viz. how far labour has advanced? our author suddenly rouses himself, and offers some really good observations respecting the diagnosis of this point in premature expulsion.

"Attention to this question," says he "is of especial importance, where abortion threatens to take place; because our practice will be considerably influenced by it; our hopes or despair of averting the expulsion will depend upon it. When the appearance of hæmorrhage, with periodical hardness of the uterus, relaxed mammæ, and fallen abdomen, afford reason to dread expulsion of the embryo, the internal examination must be instituted with the greatest caution and gentleness: it will be chiefly directed to the vaginal entrance, the vagina, and the uterus; especially the os uteri. With respect to the former, this, as abortion proceeds, will be felt somewhat wider, from participating in the cushiony and soft condition of the vagina, in which we shall find an increase of mucous secretion, (in all probability, more or less mixed with blood,) the temperature increased, and coagula lodging in it. Not unfrequently the anterior wall of the vagina will be felt peculiarly swollen; and, if there be any difficulty in passing water, we shall feel a long bolster-like mass, which is the swollen urethra. The uterus sinks somewhat lower in the vagina; we feel the external os uteri (os tincæ); and sometimes the os uteri internum also open. Where the opening is large enough to admit of the tip of the finger, it feels as if surrounded by an elastic ring of cartilage; where this is the case, the os uteri seldom closes again: in other cases it is more dilated, and we can feel the ovum presenting. When the abortion is in the second or third month, the practitioner must bear in mind that it may have been retention of the menses, and that therefore what he feels in the os uteri may either be an ovum or a coagulum of blood. To decide this point, he must keep his finger in contact with the substance lying in the os uteri, and wait for the accession of a pain, (for where clots come away, pains like those of labour are present,) and ascertain whether the presenting mass becomes tense, advances lower, and increases somewhat in size; this will be the case where it is the ovum pressing through the os uteri. On the other hand, if it be a coagulum of blood, which it is well known assumes a fibrous structure, it will neither become tense nor descend lower, but be rather compressed. Generally speaking, the ovum feels like a soft bladder, and at its lower end is rather round than pointed; whereas a plug of coagulum feels harder, more solid, and less compressible, and is more or less pointed at its lower end, becoming broader higher up, so that we generally find that the coagulum has taken a complete cast of the uterine cavity. If we try to move the uterus by pressing against this part, it will instantly yield to the pressure of the finger if it be the ovum; whereas the extremity of a coagulum, under these circumstances, is so firmly fixed, that, when pressed against by the finger, the uterus will move also. When abortion happens at a later period of pregnancy we shall be able to feel the different parts of the child as the os uteri gradually dilates, viz. the feet, or perhaps the sharp edges of bones, although we cannot distinguish the form of the head, from the cranial bones being so compressed and strongly overlapping each other."

We pass over some observations on mole pregnancy, and on the diagnosis of the various causes of obstruction which may occur during labour: both are ample fields for interesting information, but, unluckily, either our author does not always possess it, or, at least, has not the power of communicating it. His observations upon the signs of the child's death *during* labour are excessively meager and incomplete: nor does he even enumerate half of those symptoms which are allowed on all hands to exist. The diagnosis of the child's death before, and especially *during* labour, has long attracted our attention, from its great difficulty as well as importance. The wrinkles of the scalp, gradually passing into the well-known *caput succedaneum*, or cranial swelling, of course show that the child is alive: we know also that the flabby scalp, without any swelling whatever, and sliding, like so much wet leather;

over the skull; the edges of the bones remarkably sharp, everted, and grating against each other; and, in some cases, the crackling feel of emphysema under the skin, from putrefaction, are indications of the child's death. But, take the most frequent case where it is important to ascertain if the child be alive or not,—viz. a difficult labour, where the head is large, or the pelvis somewhat contracted, and, when called, we find the soft parts more or less inflamed and swollen; a case where the forceps may be advisable, and perfectly practicable, but where, from the state of the patient, it would be highly desirable to release her at once by perforation, could we be sure the child is dead;—what signs have we to guide us in this respect? The child was evidently alive at the beginning of labour, by the large œdematous tumour upon the presenting part of the head: we can scarcely reach a suture on this account, and yet, from the long duration and severity of the labour, it may have ceased to exist some hours:—how are we to prove this? It is here that the stethoscope shows its real value: if the child be alive, we shall most surely hear its circulation;—but is the absence of this sound a proof of the child's death? We believe (as we before observed,) that, in the hands of a practised auscultator, the negative sign of *not* being able to hear the fœtal heart after a careful examination, may be taken with tolerable certainty. This is a subject which we beg to recommend most earnestly to the notice of our professional brethren: its importance, both as regards the mother and her child, needs no comment, and must be our apology for the repetition. We are glad to see that Professor Hohl agrees entirely with the views of the late W. J. Schmitt, of Vienna, on the subject of hour-glass contraction, (p. 235.) "Of the many cases of incarceratio placentæ which have occurred to me, I have always met but one opening, viz. the natural os uteri, and have never seen a second opening formed by stricture of the body of the uterus, and leading to a second cavity; and I have perfectly convinced myself that, from the height of the uterus at this time in the pelvis, and from the dilated state of the upper part of the vagina, we may be very easily induced to suspect stricture of the uterus."

In describing the changes which take place in the uterus and vagina after labour, we will again quote M. Hohl's own words, (p. 241:)

> "At the moment of the placenta being expelled, we feel from without the fundus gradually diminish and sink lower; it still projects beyond the pelvis; we even feel the whole uterus like a ball, still high, and somewhat to the right side. Where this is the case, we generally find the vagina somewhat elongated. If we do not examine the abdomen till a few days after labour, we find the uterus more diminished; and, in the course of some weeks, it has returned to its former dimensions. Immediately after labour, the vagina is soft, swollen, and covered with mucus, the temperature increased, the canal itself dilated. After some four or

six weeks, it becomes narrower, the rugæ reappear; but they are further apart, and the edges of the separate folds are not so well defined as in the virgin state. The greater the number of labours she has had, the smoother the vagina becomes, and the longer is the time before it contracts again. It is only now and then that we feel here and there a ruga; the portio vaginalis is flaccid; the edge of the os uteri lobular, hanging down into the vagina and still open. In the course of a few weeks, we first begin to feel the portio vaginalis recovering its original shape, and the mouth of the uterus closed; the swelling of the urethra, which is usually felt immediately after birth, gradually disappears."

Does the uterus, *immediately* after birth, gradually contract, and its fundus sink behind the pubes, until it has nearly returned to its former size? We feel bound to meet this with a direct negation. From the results of our own observations, and from those of one, in whose experience and accuracy we place the greatest confidence, the changes in the size of the uterus after birth are as follows:—After the state of firm contraction in which we feel it, immediately after the completion of labour, when it is felt like a ball behind the pubes, of about the size of a child's head, the uterus gradually relaxes, becomes somewhat softer and larger, and continues to increase by slight degrees for some hours: its maximum increase, as well as the time required to attain this size, varies considerably in different women; but we believe that we are not far off the truth in stating a little below the umbilicus as its mean height, and twenty-four hours as about the mean time it takes to attain this size, after which it begins gradually to diminish, as the works on midwifery describe, but not before. This increase in size, previous to its permanent diminution, appears to result from the state of active contraction in which the uterus was, at the moment of labour being accomplished, gradually relaxing, so that its spongy parietes are again, to a certain degree, filled with blood, although not to such an extent as to induce hemorrhage. These changes in the size of the uterus shortly after labour, although hitherto almost unnoticed, are of great importance, and form a valuable addition to our means of diagnosis.

The remaining observations under this division are of little interest. M. Hohl denies the existence of inversion of the uterus, independent of pregnancy, as if this displacement never took place in its fullest extent with polypus. The diagnosis of inversion presents no new features beyond what we find in Richter's observations on this subject. Our author has mentioned Dewees's name once or twice in the course of the work: it is to be regretted that no reference has been made to his chapter on inversion.

The last part of Professor Hohl's work is what he calls the Special part. We cannot undertake to follow him through the whole of this: it contains a great deal of repetition and much useless digression: in fact, the greater part has been already more or less discussed, and the rest has no business here. After having gone over a wearisome description of the breasts, abdomen, pelvis, and external parts of generation, with the various anomalies which they may present, he comes to the changes which the os and cervix uteri undergo during pregnancy. We have nothing to find fault with in all this, except that the greater part has been already given. We agree with him fully where he says, "at the end of a normal pregnancy, the pains will sometimes come on for hours, or even days, before the actual commencement of labour: they go off and return without any change being observed in the os uteri. *These pains determine* the direction and position of the child." He is aware, we presume, that Fielding Ould said the same ninety-four years ago. The rest of his observations are exceedingly meagre. A few symptoms of prolapsus uteri and of inversion are mentioned; others have already occurred in another part of the work; in fact, there is no clear concise arrangement, but something of every thing, and nothing complete.

In speaking of the child's head, he gives a short and very tolerable description of what is to be felt by the finger during labour with the head in the first and second position. In these respects, he follows the views of Professor Naegelé, of Heidelberg, which, in fact, are now becoming generally received by all those who have investigated the mechanism of parturition with any degree of care. In speaking of face presentations, Professor Hohl makes a slight mistake in calling that position of the face the second where the chin is turned towards the right: this is the *first* position, and if he had considered for a moment what he had already said at page 203, (where he very correctly observes that presentations of the face are in all probability originally presentations of the head,) he would have seen why the face presents more frequently with the chin to the right than to the left. His diagnosis of a nates presentation is a right specimen of the old school. "We distinguish the breech by its rounded form, and doughy softness, by the hard tubera ischii lying near to each other, with the sulcus of the nates and the anus between them, by the parts of generation." Every assertion in this short sentence we deny. M. Hohl has, it is true, added, "the feel of the coccyx close by the edge of the anus;" and this is, in fact, the only distinguishing mark by which we can ascertain that the nates present. How are we to distinguish the round tubera ischii, the soft nates, the parts of generation, (in all probability already more or less swollen,) from the face, or even the shoulder? It is all very easy where every thing is favourable for the purpose; but, wherever the examination is in any way rendered difficult, either from the state of the os uteri, or from the presenting parts being much compressed and swollen, we can assure him that these marks will afford but an uncertain diagnosis. His description of the infant's foot from the feel which it communicates is good, and as such we present it to our readers.

"We distinguish the foot by its hardness and thickness, by the heel, by the toes, (which are short, straight, and not very moveable,) and by the ankle-joint. The foot may be distinguished from the hand by the great toe being longer than the rest, and lying close to them; whereas, the thumb is shorter than the other fingers, and stands off from these, or can be retracted. Moreover, the ends of the toes form nearly a straight line; whereas, the tips of the fingers are of unequal length. The hand is broader and softer than the foot, the fingers are longer than the toes. If the beginner be still uncertain as to what he feels, he may call to his assistance a means which may prove very useful where the membranes are not yet ruptured, and where the diagnosis may be very difficult: he has only to tickle the flat surface of the presenting part with the tip of his finger; the child will distinctly withdraw its foot: whereas, if it be the hand, this will close, or at least enable him to distinguish it by the motion of its fingers. In many cases it is impossible to know with certainty which foot it is we feel. Let us suppose the soles of the feet are turned forwards, or that we find a foot in this position: it is always that foot according to which side of the mother the great toe is directed."

There are two observations in this quotation to which we object: firstly, that the great toe of a full-grown fœtus is not always so parallel with the others as might be supposed from this description but projects from the side almost like a thumb, and in many children, shortly after birth, is capable of as great a degree of retraction; and secondly, the rule given for ascertaining which foot it is, will not hold good in practice, except in the above-mentioned case, where the toes are turned backwards. What would become of M. Hohl's diagnosis, where, as is very frequently the case during the first half of labour, the toes are either turned forwards or to one side? It surely must be far simpler to recollect that the great toe is upon the inside of the foot.

With regard to supporting the perineum, Professor Hohl fancies that he can put the head in a more convenient position than that in which it is placed by nature, and recommends a variety of manipulations to give it the necessary turn, &c. We cannot stop to offer any observations upon this subject, but merely request the obstetric reader to satisfy himself carefully as to the precise direction which the ring formed by the os externum takes upon the head at the moment of its greatest distention. He will find that in no other directions could the head offer so small a bulk; and this is with the posterior and superior quarter of the right or left parietal bone in advance, according to which position of the head it may be.

His directions for finding the orifice of the meatus urinarius for the purpose of introducing the catheter, are very objectionable: the clitoris must not be our guide on such occasions; in the first place it is a very insufficient guide, and secondly, it ought not to be touched by the finger. The best and simplest method is to pass the finger into the vaginal entrance: we feel the cushion-like mass of the urethra at the upper part of the pubic arch, and, running the finger along it, cannot fail in coming to its anterior extremity and detecting the orifice. Professor Hohl, to our surprise, advocates reposition of the umbilical cord, where it has been prolapsed, and gravely directs this and that manipulation for its reduction, according to the position of the head and the side at which the cord is prolapsed. We offer no comment on such rules for practice, but merely assure our English readers, that such is not the practice generally in Germany. His directions in turning are little better. Does M. Hohl forget what Peu, Deleurye, Hamilton, Boer, &c. have said, when he ventures to recommend rupturing the membranes as soon as the hand has passed the os uteri?

The few remaining pages on the application of the forceps, perforation, and artificial removal of the placenta, contain nothing of peculiar interest. An appendix of two pages and a half on the importance of the gustatory and olfactory organs to a practitioner, possesses little of peculiar value. The latter part of the subject is capable of much useful investigation, especially in the puerperal state and with new-born infants. It might have been made much more of with advantage.

We thus conclude our review of Professor Hohl's work. The book itself is a bad specimen of German paper and typography, the more so as most works in Germany are now got up in a very different style: in this respect Professor Kilian's is infinitely superior. Any further mention of this latter work we defer till a future opportunity. We have analysed M. Hohl's work with no little care, and we trust also impartially: it contains much valuable matter, which proves him to be a man of considerable experience and reading, and warmly devoted to his profession. But the quantity of meager, prosy, and in some parts positively objectionable, matter with which considerable portions are here and there loaded, forbid our approval of it. We regret it the more, as his name has received honourable mention by those for whose opinion we have the highest respect.

If we might presume to offer advice to Professor Hohl, and we do so with the best intentions, it would be to condense his two volumes into one of moderate size, and cut out all that extraneous and objectionable matter which we have so much complained of. The size of the work will, it is true, be diminished, but its value will be greatly increased.

ART. V.

Illustrations of the Elementary Forms of Disease. By ROBERT CARSWELL, M.D., Professor of Pathological Anatomy in the University of London.—*London.* Folio. 1833, 4, 5. Eighth Fasciculi. Longman.

WE shall not apologize for devoting some pages to this work, notwithstanding it is already well known to the profession. It would be sufficient to remind our readers, were any excuse necessary, that the "Illustrations" are progressive, and that some parts of them are still very recent; but we have other and more important reasons for making them the subject of our consideration. Whilst it is our continual duty to observe and communicate every valuable novelty in medicine, it will occasionally be as much so to take a general survey of the science, and of its progress towards ideal perfection. In this employment it would be impossible to overlook Dr. Carswell's researches, the results of which may be reckoned among the most important achievements of British medicine in the present century. However agreeable it may be to watch the inpouring of new streams of wealth into the treasury of knowledge, it is to us no less pleasant, and certainly as useful an occupation, to count over the total amount of gains, to compare our present affluence with former indigence, and, above all, to consider in what manner our resources may be best disposed of, in order at once to ensure their multiplication, and to render them subservient to one great object of all science—the subjection of nature to art.

Though by no means desirous of setting out with mere verbal criticism, we cannot help expressing our doubts of the propriety of the title, "Elementary Forms of Disease." Could the author reveal even to our mental eye those mysterious shapes which, whether hidden by the general darkness of our ignorance, or too subtle in their essence to be apprehended by such instruments as we possess, or too changeable to be identified even when they have once been detected, have so often eluded the observation of philosophers, from the days of Hippocrates downwards, the whole medical world would stand immeasurably indebted to him. He would have gone far towards achieving for our science a discovery scarcely inferior to that which Bacon trusted, that in the fulness of time, his method of investigation would produce for all human knowledge,—the invention of "essential forms:"—"differentiæ veræ, sive naturæ naturantes, sive fontes emanationis!" But what expression could be found for our gratitude, were the author not only to pourtray these forms to our imaginations, but even to present them to the visual sense, by means of the familiar arts of drawing and engraving. The phrase "elementary form" can only be applied metaphorically, since disease, that is, disordered function, being a series of *events*, exists in time, not in space: it must therefore signify the initiatory event of the series. But is this likely to be discovered during our ignorance of the event which occupies a similar place in that series which constitutes the *un*disordered function. Few pathological conditions appear more susceptible of analysis than the hyperæmia of a mucous membrane; but till we can say how the blood, in permeating the tissue in its normal condition, observes a certain relation of quantity, and by what affinities it yields or assumes therein certain molecules and properties; till we can enumerate these events, and determine their order under circumstances of health, it will be presumptuous to profess an acquaintance with the primary change in a derangement of those actions. Perhaps it may seem that we are refining superfluously, and that the word disease was used to denote an alteration in the physical qualities of a structure, and that such and such kinds of disease, which make the subjects of our author's Illustrations, are denominated "elementary forms," only because they are less complicated than other forms, or because, though themselves composite, they do actually form the constituent elements of certain other diseases, standing indeed in the same relation to the latter as proximate principles to organic substances. In this sense tuberculous and scirrhous deposits, being essential components of a great variety of morbid growths, may be designated the elementary forms of the latter. But disease is a great abstraction, comprehending all diseases; and he who professes to treat of the elementary forms of them all, undertakes a task similar to that of discussing the proximate principles of all animal and vegetable substances.

We have seen no general plan of what Dr. Carswell proposes to do, but we judge that he will in due time favour us with illustrations of the essential characters of all kinds of morbid alterations of tissue to which the human frame is liable. It might therefore have been better to have entitled the work "Illustrations of the Elementary Forms of *Diseased Structure,*" which would comprehend not only what are commonly called organic, but also inflammatory diseases; and would exclude those in which the molecular changes are either unknown or incapable of pictorial representation.

Dr. Carswell's work belongs to one of the most interesting departments of pathological anatomy. This science may, we think, be said to include four different kinds of researches. The first to be mentioned, because of its priority in history, is that of which the object is the discovery of alterations in organs, *as organs,* and consequently with reference to the changes in their real or supposed functions during life; or, where the function is doubtful, with reference to the symptoms of the fatal malady. These objects of enquiry were the only ones that engaged the earlier morbid anatomists, and they have been diligently pursued in modern times, under the denomination of *special* pathology. Researches of this nature are obviously of the last importance in diagnosis and prognosis. The *second* species of morbid anatomy is that which examines the organs with reference to the tissues involved in diseases, and which traces in organs differing considerably from each other a similarity of lesion, determined by their possessing one or more tissues in common. This method of investigation, suggested by Bohn, practised in this country by Carmichael Smyth, and reduced by Bichat to a system which has immortalized his name, has been particularly useful in illustrating the affinities of diseases, —their local origin, their course, and their extension. The *third* species is that which looks for certain textural changes, common to a great variety of parts, and recognized by certain essential characters, which are only accidentally modified by the nature of the tissues themselves. Not to mention inflammation and its immediate products, the changes in question embrace deviations from the proper consistence of organs, excesses or defects of nutrition, perversions of secretion, and the deposition of peculiar substances. The last of these subjects has been particularly prosecuted by Abernethy, Bayle, Laennec, Andral, Cruveilhier, and Carswell. This division we consider the most important of all, because, as we shall see by and by, it conducts us nearer to the very beginnings of evil; or, in other words, assists us in ascending from local to constitutional causes, from diseases to diatheses,—an end of incalculable moment to prophylaxis. To the *fourth* species belong those investigations which trace original malformations, and subsequent transformations of tissues, and many other lesions, to the operation of laws which govern the processes of organization throughout the animal kingdom. Viewing it in this manner, we may recognize in a mal-formed organ the permanence of a condition which is usually confined to the embryonic state; or, in a diseased organ, the return to a lower type of development. Enquiries of this description teach us that a compound tissue, in its morbid transformations, can only assume the forms of which its elementary tissue is susceptible. Thus, fibrous tissue, cartilage, bone, skin, &c., can only be mutually convertible into one another, or *repeat* one another, or such structures as have cellular membrane for their fundamental tissue: they cannot be converted either into nervous or into muscular matter, nor these into those. This department of anatomy promises a harvest of most interesting facts, which, if not immediately applicable to practice, must throw great additional light upon the regularity of Nature's operations, and exhibit order and method in the midst of what might at first appear only chaos and confusion. But we hope for something beyond this. Should it be discovered that the anormal condition of an organ in the human subject resembles the normal condition in one of the lower animals, (as, for example, the lungs of aged persons resemble those of the chelonian tribe, more than those of young persons,) and that this condition is best maintained by certain modifications of the external stimuli of life, we may hence obtain suggestions respecting the circumstances that have favoured the degeneration in question. We need scarcely add, that this branch of anatomy, under the title of transcendental, has been zealously cultivated by Oken, Meckel, Geoffroy St. Hilaire, and Serres. The last-mentioned author has done more than any of his predecessors in connecting the anatomical discoveries with pathological doctrines.

The third division we have already said has nothing to do with particular organs or particular tissues; it is likewise unconcerned in the observation of analogies between anormal conditions of organs and their embryonic states in the same animal, or their normal conditions in other species. Its object is the investigation of particular pathological states, which may affect all or some only of the various organs and tissues. Thus, it searches for the essence of inflammation, and shews that it may be produced wherever there are capillaries and blood, and that it must be modified according to the composition of the latter and the arrangement of the former, &c. It likewise traces peculiar products to faults in the blood; which products may be discharged upon secreting surfaces, or may be deposited in place of the proper molecular structure of organs, and which will present certain forms, consistence, size, colour, &c., according to the nature of the tissue and other circumstances. Such pathological conditions correspond pretty closely to Dr. Carswell's Elementary Forms. Having said thus much by way of introduction, we shall proceed to consider the manner in which this able author has treated his subjects.

We may first mention that eight fasciculi have been published: the 1st, upon Tubercle; the 2d and 3d, upon Carcinoma; the 4th, upon Melanoma; the 5th, upon Softening; the 6th, upon Hæmorrhage; the 7th, upon Mortification; and the 8th, upon Pus. Each fasciculus contains four coloured plates, in which it is difficult to know whether to give more praise to the minuteness and fidelity of the representation, or to the beauty of the execution. The text is devoted partly to a general discussion of the subject, and partly to the explanation of the plates. In the latter so much pains have been taken, that we doubt whether, if the author himself were present at our inspection of the plates, he could indicate the several parts with more precision.

Before entering upon a critical analysis of the first fasciculus, we may perhaps be allowed to make one or two remarks upon the origin of morbid growths in general, without implicating the question, whether they depend upon disordered secretion, or upon disordered nutrition; nor shall we at present enquire whether, upon their first appearance, they assume the forms of cysts. A question of greater moment is, whether their cause is confined to the part in which they are found, or whether it must be sought in some fault pervading the whole economy. In favour of the former supposition, the following presumptions might be urged: 1st. The mere fact of the frequent circumscription of the diseased structure; since, if the cause were general, the effect might be expected to be so likewise.

2dly. The predilection which the morbid growths exhibit for particular organs; as tubercle for the lungs, scirrhus for the mamma and pylorus, encephaloid cancer for the testicle, &c. 3dly. The apparently close connexion between the anomalous formation and certain external agents, of which the operation is manifestly circumscribed: e.g. the production of scirrhus by a blow. 4thly. In certain cases, the apparently good health of the individual up to the commencement of the disease. 5thly. The direct ratio existing between the degree of the constitutional affection, and the activity of the local malady. Upon the first of these, it may be remarked, that we might admit the principle that it is superfluous to look for the cause of the alteration in a structure beyond its locality, were the materials of the structure derived exclusively from the place where the disease exists, or if all the structures in the body were so similar to each other as to forbid our supposing that the particular formation of some might occasion in them a more signal development of a fault more or less common to all. Assuming, for the sake of illustration, that the constitutional fault consisted in a defect of some proximate principle in the tissues generally, is it not all but certain that this defect would occasion more mischief in some organs than in others; those, namely, into which this principle most largely enters? or assuming that the evil was in the blood, we might rationally expect the composition of some structures or products to be more influenced than others, by an excess or deficiency of principles important to their very existence. There is consequently no more weight in the second argument than in the first of those above enumerated, since the greater frequency with which particular parts are affected would only indicate that the tissues of which they are composed, and the fluids which permeate them, are such as to be especially affected by a morbific cause, which prevails to a greater or less degree throughout the system; just as, in general hyperæmia, particular organs are apt to be more congested than others. In like manner we may dismiss the third argument, which proves nothing more than that a local agent may excite disease in an organ which was predisposed, but throws no light upon the mode in which the predisposition was brought about. With regard to the fourth, we may observe, that the cases in which there has been no manifest declension of health prior to the appearance of the morbid growth are very rare, and that, when they do occur, it will be found that some local cause has occasioned, in the part affected, a condition favourable both to the production and to the acceleration of the morbid process. Thus, we occasionally observe a very rapid tuberculization of the lungs supervening on an apparently good state of health; but in such cases the disease almost always begins with an attack of pneumonia or of bronchitis, which places the organ in circumstances highly favourable to the formation of tubercles. Or, to take the case of scirrhus of the mamma, occurring in a person apparently free from disorder; in the majority of instances, as every one knows, this affection is preceded by a change of complexion, by debility, and other signs of deteriorated health; but, in such as we have alluded to, it will generally be found to be the result of some accidental circumstance which occasioned an accumulation of blood in the organ, a blow, for instance, or exposure to a current of cold air. The fact adduced in the fifth presumption may be applied conversely: that is, the activity of the local disease may be considered only a sign of the intensity of that constitutional taint, the existence of which is attested in other parts of the body.

Very little doubt can rest upon our minds respecting the point at issue, if we now take into consideration the direct presumptions in favour of the supposition that morbid growths owe their origin to the state of the whole system. 1. The very frequent diffusion of the morbid matter in several organs at the same time; this diffusion not admitting of explanation upon any supposition of absorption. 2. The production of the substance in other parts of the body, after the removal of the organ in which it first appeared. 3. The well-known fact that a slight injury, which in most persons would produce nothing more than inflammation, and its usual consequences, will, in a particular subject, be followed by one of the diseased growths under discussion.

We have made these observations, because Dr. Carswell, in his Essay on Carcinoma, is so convinced of that for which we have been contending, that he contents himself with stating it as a law, "that the speciality of the morbid product is independent of any local agency whatever," without adducing any further proof of it than the fact which we have last adverted to. We could have wished, indeed, that he had discussed the question more fully; partly because we cannot doubt that he would have placed the arguments in a striking point of view, and partly because we are aware that there are some eminent pathologists not as yet prepared to acknowledge the law laid down. Dr. Hodgkin, for instance, expresses some scepticism as to the existence of the constitutional taint;* and Dr. Alison, while attributing tubercle, encephaloid and melanosis to a diffused constitutional peculiarity, arranges scirrhus and cancer among the formations which have a local origin.†

Assuming, then, that the heterologous formations are not of local origin, we have next to enquire whether the constitutional peculiarity belongs to the blood, or to the tissues, or to both. It needs no argument to prove that blood of a good quality may be sent to an organ, and yet that the nutrition and secretion in this part may prove very vitiated, in consequence of some failure of innervation, or of a derangement of those complicated affinities which preside over capillary changes. But, if the same kind of substance be produced in tissues of a very different organization, as, e. g., upon mucous and upon serous surfaces, in the coats of the stomach, and in the substance of the brain, it is infinitely more probable that the deposit is derived from a common fluid which pervades them all, than that similar derangements should occur in tissues so dissimilar.

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* Med.-Chirurgical Transactions, vol. xv. p. 321.

† Outlines of Physiology and Pathology, p. 551.

This *a priori* argument is strongly confirmed by the fact, that the substances in question are often formed in the blood itself, sometimes in the vessels, sometimes when effused. Dr. Carswell states, that carcinomatous matter is found not only in veins which ramify in the immediate vicinity of tumours, and which might be supposed to have derived it by absorption, but also in remote veins; and in one, in particular, which completely precludes the idea of absorption, viz. the vena portæ. Since there is so strong a tendency, then, in the particles of the blood to arrange themselves in the form of the substance alluded to, it is scarcely necessary to suppose any derangement in any of the other elements of nutritive and secretory processes, were it not that one part is often more affected than another, though of similar organization. Thus, a tuberculous or scirrhous deposit may be confined to one kidney, or to one hemisphere of the brain. In such cases we are disposed to think that very slight differences of mechanical condition, such as a temporary congestion, might be adequate to account for the fact, without supposing any special derangement of nutrition or of secretion.

How the blood becomes thus vitiated,—whether by defects in the assimilative, respiratory, and excretory functions,—defects produced by an originally faulty organization of the parts to which they belong,—or whether it only shares a fault inherent in the chemical composition of the whole system, are questions which we are not at present in a condition to solve.

In the author's description of the characters of Tubercles, the observation most worthy of attention is, that he reckons it among the inorganizable products of the system, and denies that it is in its first stage semi-transparent. In this respect his account agrees pretty closely with that of Andral, and differs from that of Laennec. The last-mentioned author evidently treats of tuberculous matter as if it were a *tissue*, or a part of the animal in which it is found. According to his views, it is an imperfect condition of the parenchyma, the result of an aberration of nutrition; it grows, as he expressly states, by intus-susception, and the changes which it suffers are the effects, not of any neighbouring agency, but of processes confined to itself. There was something in this view that at first appeared remarkably consonant with analogy. That in a cachectic state of the system, and consequently of the blood, the structure of a part should *degenerate*, (a term once so common, but now becoming obsolete in our schools of pathology;) that the vitiated structure should undergo spontaneous changes, such as becoming opaque and firm, and then soft and liquid; that it should be evacuated, and leave behind it a cavity; seemed to be not only highly probable *a priori*, but established by a careful observation of the actual facts of the case. Further researches, however, have thrown great doubt over Laennec's doctrines on this subject. Tuberculous matter is not a substitute for the textural particles of the organs in which it occurs, though it may ultimately interfere with their secretion, as we shall see presently. Its seat is not in the substance of the elementary tissues, and it presents no traces of areolæ, fibres, or canals, that would justify us in considering it an organized substance: nor was Laennec's description of the alterations in its qualities so correct as he supposed. Thus, the matter never itself appears first in a transparent form, though it is often accompanied by a transparent secretion; and Andral long ago perceived that, so far from the softening process beginning at the centre, it generally commences at the circumference, in consequence of the secretion of pus which it has provoked by its action as a foreign body.

Pathologists in the present day are agreed, then, that tubercle is an unorganized product; but concerning the mode of its deposition their opinions are more at variance. Cruveilhier holds that tubercle, like all other heterologous matters, is secreted in the areolæ of the cellular membrane, and at the expense of the nutrition of the organ; and that the proper tissue is atrophied. Andral considers it a perversion of that perspiratory secretion which, according to him, occurs wherever there is living matter. Dr. Carswell evidently regards it as an *excretion*, though he does not make use of that very term. We are not aware that any pathologist has made so many important observations upon tubercle as this author, and some of the most interesting of them have reference to its locality. He has satisfied himself that the seats are the blood, and mucous and serous surfaces, (the latter including the cavities of the cellular membrane,) but that mucous surfaces are the places where it most abounds. Upon this particular point his observations are entirely original, and are evidently based upon very careful anatomical investigations.

Tubercle, as every one at all acquainted with the subject is well aware, is very frequently found upon the surface of the pleura and of the peritoneum; but our author's researches have led him to the conclusion that, "in whatever organ the formation of tuberculous matter takes place, the mucous system, if constituting a part of that organ, is, in general, either the exclusive seat of this morbid product, or is far more extensively affected with it than any of the other systems or tissues of the same organ. Thus, the mucous system of the respiratory, digestive, biliary, urinary, and generative organs, is much more frequently the seat of tuberculous matter than any other system or tissue which enters into the composition of these organs." His discovery that the mucous membrane of the lungs is the seat of the deposit, affords direct and valuable assistance in explaining certain facts regarding the form and the changes of pulmonary tubercles. The definite rounded form of tuberculous deposit in certain organs, particularly the liver and the brain, has, we doubt not, contributed to the notion that it is an organized substance. But this circumstance is purely accidental, being determined altogether by the mechanical conditions of the part in which it occurs. Subjected to equable pressure, as in the organs which have been just mentioned, its form is globular: it affects a similar figure, though for different reasons, when secreted in a shut sac, or in a cell, whether an air-cell, or a cavity in the cellular tissue. In tubes, it takes different shapes, according to their distribution: in hollow viscera, as the uterus, and in the pelvis of the kidney, it moulds itself to their interior; and, "upon the surface of serous membranes, whether natural or accidental, it may have either a globular or lancinated form, as the secretion in which it originates may have taken place in distinct points, or from a continuous surface of greater or less extent."

It may not be amiss to remind our readers that a few years ago, when Cruveilhier's experiments on the production of tubercles, by the injection of mercury into the lungs, were repeated in this country by Kay and others, a good deal of stress was laid upon the globular form of the deposit found in the parts which the metal had reached, as indicating their identity with tubercles, and consequently supporting the doctrine of the inflammatory origin of these bodies. We repeated the experiments, and, though obtaining the same results, were unable to deduce any argument from the figure of the bodies in question, in favour of the supposition that they were tubercular; since the figure was precisely what might have been expected from the secretion of a common inflammatory product around the irritating bodies, namely, the *globules* of the metal.

Our author's mode of accounting for the transparent appearance which tuberculous matter so often puts on in the lungs and in the peritoneum, deserves particular notice. We have already mentioned that Laennec was of opinion that it *always* has this character when newly formed; and Louis entertains the same idea: and yet, as Dr. Carswell observes, with great force, this transparent substance is never seen elsewhere than in the lungs and on the free surface of serous membranes; and in these parts it certainly does sometimes precede the opaque matter. The cause of this appearance is assigned by Dr. C. to the simple fact, that the tuberculous secretion is mixed with the other secretions of the parts alluded to. The explanation cannot be better given than in his own words. Speaking of the air-cells, he says,

> "The mucous secretion of their lining membrane accumulates where it is formed; but it is not pure mucus; it contains a quantity of tuberculous matter mixed up with it; which after a certain time is separated, and generally appears in the form of a dull, yellow, opaque point, occu-

pying the centre of the grey, semitransparent, and sometimes inspissated mucus. This process of separation of tuberculous matter from secreted fluids is strikingly exemplified in tubercular peritonitis. When we examine the peritoneum thus affected, the three following stages of the process are frequently extremely well marked: first, on one portion of this membrane there is seen a quantity of recently secreted coagulable lymph; secondly, on another we find the same plastic semitransparent substance, partly organized, and including within it, or surrounding a globular mass of tuberculous matter; and, lastly, on another part the coagulable lymph is found converted into a vascular or pale cellular tissue, covered by an accidental serous membrane, beneath which, and external to the peritoneal or original secreting surface, the tuberculous matter is seated, having the form of a round granular eminence, resembling in colour and consistence pale firm cheese." (Fasc. 1.)

The *consistence* of tuberculous matter may become firmer by absorption of the watery secretion which accompanied its deposit, as in the lymphatic glands; or may be softened by infiltration with the fluids which its presence has caused to be secreted. In the latter case, which is the most common, it may be converted into a fluid, of a colour corresponding to the matter with which it is mixed, whether blood, serum, or pus. The softening, then, if this be true, must begin at the *circumference.* But how does this agree with the observation made by Laennec, and confirmed by every pathologist of experience, that the centre of a tubercle is often found soft, though the other part has considerable firmness, or, to use another phrase, is in "a state of crudity." It must be remembered that this observation applies only to tubercles in the lungs; and, if our author's account of the manner in which the deposit is formed in these organs be correct, (and we see no reason to dispute it,) the fact admits of an easy explanation, without supposing that the softened spot indicates the commencement of a change peculiar to the substance in question. Thus, if the morbid product be secreted upon the mucous membrane of the air-cells and bronchial tubes, and not at all in the adjoining tissues, it may be so accumulated as to occupy the whole space of the cavity, *excepting a central portion, containing mucus or some other secreted fluid,* which consequently will give to the cell or the tube, when divided transversely, the appearance of a central depression, mistaken by Laennec for the beginning of the change from crudity to softness. This view reflects credit upon Dr. C.'s ingenuity, and appears to us to be subject to no other doubt than as to the probability of mucus remaining upon the surface of that other secretion which covers the secreting membrane. This difficulty, however, is easily got over, if we take into consideration that it is not necessary that the fluid should be the immediate product of the part in which it is found, and which it may have reached after escaping from other parts of the bronchial surface.

The encysted form which tubercles are said to assume in some cases, Dr. Carswell pronounces to be a deception, produced by the dilatation and distention of a cell, or a tube, in which the matter is deposited. We do not ourselves see why a cyst is not as likely to be formed around tuberculous as around any other foreign body. Our author, of course, admits that an accidental tissue is formed around the matter in the process of cure. His remarks upon the transformation of tubercle into a putty-like substance, by the absorption of the albuminous constituents, and by the condensation of the earthy particles, as well as those upon the changes in the surrounding tissue, are very interesting; but we must content ourselves with referring the reader to the work itself, and to the plates, in which these changes are illustrated with singular felicity.

In examining the plates, we particularly recommend the inspector not to content himself with merely looking, but to look under the direction of the remarks which explain the representation. Without the latter, even the best-instructed eye may overlook some very important particulars. Where all represent their originals so faithfully, it is difficult to single out the most excellent; but we have been particularly struck with the delineations of tuberculous matter deposited in the bronchi, and upon the peritoneal covering of a portion of intestine.

Under the head of *Carcinoma,* the author treats, with the hand of a master, of some of the most malignant diseases to which the human frame is liable. He offers at the outset a remark, to the truth of which we cordially subscribe; namely, that great obscurity has been thrown over heterologous diseases in general, by the circumstance of their having been in former times studied almost exclusively upon the surface of the body. Differences of form, of consistence, and of structure, depending in reality upon differences in the degree of development of the same substance, or in the nature of the tissue in which the substance is formed, have been mistaken for differences in the essential nature of the morbid products. More extended and rigorous examinations, however, have led to the discovery of primary forms common to several varieties; one of these is carcinomatous matter. That the diseases comprehended under Carcinoma have something in common, we cannot for a moment doubt, because, although differing greatly in physical characters, and even in their anatomy and physiology, they are all found to prevail in the same habit of body, to coexist in the same individual, and to pass into each other. In addition to these signs of affinity, Dr. C. observes that "they all terminate in the gradual destruction or transformation of the tissues which they affect;" and "all possess, although in various degrees, the same reproductive character."

The genus Carcinoma he divides into two species, which he designates Scirrhoma and Cephaloma. These names would imply only a difference of consistence; but he wishes it to be understood that the species are separated upon grounds of difference of a more constant character; viz. that the former have little or no tendency to organization, while the latter are very readily organized. He admits, however, that though, for the most part, the matter of scirrhoma bears no trace of organization, yet it sometimes is changed into matter which becomes organized; an admission which, we think, ought to have prevented him from making any distinction on the above grounds. We confess not to understand, at first sight, how a secreted substance is first inorganizable, and then becomes a substance which is capable of being organized. Dr. C., however, appears to use the phrase "capable of being organized," in the sense of vascularity; and, with this understanding, we see no objection to the classification, though we should certainly dissent from a view that implied that scirrhous matter was not an organized product; since there can be no doubt that it is often a substitute for the proper tissue of an organ; a fact which the author himself takes great pains to illustrate. Thus, in the stomach, it takes the arrangement of the muscular fibres, and in the liver the form of the acini; under which circumstances it must surely be considered an organized substance, though degenerate, and though not readily convertible into a substance of which the nutrition is independent of the organ in which it is formed. Were the latter circumstance to be considered the characteristic of organization, it might be denied even to the molecules, for which the carcinomatous matter is substituted. We are therefore disposed to view Andral's arrangement of Scirrhus among the organized products, as more correct than that of our author; though we do not the less incline to the belief that the substances ranked under the head of Carcinoma may be correctly distributed into two groups, characterized by their having a tendency or not to become *vascular*.

The Scirrhoma of Dr. Carswell includes scirrhus, the pancreatic sarcoma of Abernethy, the Tissue lardacé of many French authors, the Matière colloïde of Laennec, and the Cancer gélatiniforme, or aréolaire, of Cruveilhier. To Cephaloma belong the common vascular or organized sarcoma of Abernethy, and the medullary sarcoma of the same author, called by Laennec Matière cérébriforme, or encéphaloide; by Mr. Burns, Spongoid inflammation; by Dr. Monro, Milt-like tumour; and by others, Soft cancer. The Fungus hæmatodes of Hey and Wardrop, and the Fungoid Disease of Sir A. Cooper, are peculiar states of the last-mentioned formation. The author's definition of Carcinoma is as follows:

> "From the general considerations into which I have entered on the species and varieties of carcinoma, it must be obvious that no precise definition can be given of this disease. It may, however, be said to consist in the formation or deposition of a peculiar substance, which presents great variety of consistence, form, and colour; frequently assumes a definite arrangement, and possesses a vascular organization of its own; gives rise to the gradual destruction or transformation of the tissues in

which it is situated; affects successively or simultaneously a greater or less number of organs, and has a remarkable reproductive tendency." (Fasc. 2.)

Although there is some vagueness in this definition, as the proposer of it himself allows, it contains, if we mistake not, sufficient to enable us to diagnosticate it from the only other heterologous deposit with which it is likely to be confounded, viz. tubercle. Melanosis is, of course, out of the question; but from the former it may be distinguished by its occupying the molecular structure of organs, and by its tendency to become vascular.

The remarks upon the "seat and origin of Carcinoma," by which the author means the source of its formation, and the place of its deposition, are deserving of very attentive perusal; particularly the account of the manner in which it enters into the structure of organs: how, for instance, its presence in the liver is betokened by a change in the colour and in the consistence of the acini, while their form and bulk remain for a time unaltered; how, by the grouping of a number of acini, and by their subsequent increase of bulk, they lose their original form, and are transmuted "into a lardaceous mass, or into some one or other of the tissues or substances which belong to either of the two species of carcinoma;" how (to take another example,) the deposit in the stomach often begins to show itself by a paleness and unnatural firmness of the muscular fibres, in which it is the more easily recognized that the colour of the tunic differs from that of cellular tissue; and how, in process of time, they "both acquire a greater or less increase of bulk, become remarkably distinct, and present that fibriform arrangement, hardness, and transparency, which are considered characteristic of scirrhus."

These changes are admirably depicted in one of the plates belonging to this fasciculus, if we make the exception that the colouring appears somewhat too vivid. The description of the formation of the deposit upon serous surfaces, and the application of the facts under this head to the probable origination of the matter in the blood, are likewise highly valuable. The remarks upon the appearance of carcinoma in the blood-vessels are so interesting, that we shall present them entire.

"The presence of the heterologous substance which constitutes the several varieties of both species of carcinoma in the blood is a circumstance of great importance, and unless it be clearly demonstrated to arise in consequence of a modification of the blood itself,—in whatever manner produced,—we should find it impossible to explain many of the phenomena which it presents, more especially those which accompany its formation in the molecular structure of organs, and on the surface of membranes.

"The following facts may be adduced as furnishing strong evidence that the formation of this substance takes place in the blood, whether it be found in this fluid alone, or in other parts of the body at the same time; 1st, the presence of this substance in the vessels which ramify in carcinomatous tumours, or in their immediate vicinity; 2d, in the vessels of a portion or of the whole of an organ, to the former of which this substance is exclusively confined, and can be traced from the trunks into the branches and capillaries; 3d, in vessels having no direct communication with an organ affected with the same disease, as, for example, when it is confined to a small extent of the vena portæ; and lastly in blood which has been effused into the cellular tissue, and on the surface of organs. The divisions of the vascular system in which the carcinomatous substance has been observed are the venous and capillary,—a circumstance which may be ascribed to the contractile power of the arteries preventing, under ordinary circumstances, the blood from accumulating, and, consequently, this substance from forming within them, and not to any peculiarity of function exercised by the former. The appearances which the carcinomatous formation presents in the blood are very various, and sometimes perfectly similar to those which mark its presence in the substance or on the surface of organs. In large veins, such as the vena portæ and its branches, the emulgent vein, &c. it may present the lardaceous, mammary, medullary, or hæmatoid characters, all in the same venous trunk. These varieties of the carcinomatous formation may be found mixed together in minute quantities, or isolated into masses so conspicuous that we can readily distinguish them from one another; sometimes they lie merely in contact with the internal parietes of the vein; at other times they are united to the latter by means of a thin layer of colourless fibrine; or minute blood-vessels pass from the one into the other, and are often very numerous and remarkably conspicuous in the cerebriform matter. The *formation* of these varieties of carcinoma in the blood cannot remain a matter of doubt to those who have had occasion to examine the appearances I have described. That the presence of an organized product in the blood can have no other origin than the blood itself, and that such a product cannot be introduced into this fluid by absorption or otherwise, are facts so obvious that I shall not attempt any further illustration of them." (Fasc. 2.)

With the above views, the supposition of a peculiar modification of growth in the part where the morbid product is found would of course be incompatible. The matter is separated from the blood, and assumes a certain form, bulk, colour, and consistence, not by virtue of any inherent peculiarities of organization, but of the circumstances of its locality.* It is not a growth, germinating as it were from the coagulable part of the blood, as was taught by Abernethy, nor is it (in the language of Laennec) an adventitious tissue. Neither can it be said (with Dr. Hodgkin) to be always a cystiform structure. In commenting upon the views of the last-mentioned pathologist, as developed in his admirable essay* on Adventitious Structures, our author admits that, if cysts exist in any of the organs of a person who is the subject of the cancerous diathesis, they may become the seats of the peculiar deposit, equally with any other serous membranes. He observes, however, that not only is the carcinomatous secretion often produced where there are no cysts at all, but that, where they do exist, the matter is often secreted in the cellular tissue external to them, in such a manner that the serous membrane is projected before them; a fact which is actually represented in Dr. Hodgkin's paper. This view would reduce the relation between cysts and carcinomatous deposits to one of a very accidental character; much more so than we are disposed to admit, partly because we think it unlikely that, with such powers and opportunities of observation as are possessed by Dr. Hodgkin, he should have attributed to scirrhous formations in general an arrangement which, according to Dr. Carswell, occurs only when there chance to be cysts in the vicinity of the carcinomatous secretion. Though by no means believing that cysts are at all essential to the formations under discussion, we certainly think that they do take a part, though a subordinate one, in the production of the peculiar substance. Is it not probable that they are sources of irritation in their locality, and that the consequent afflux and congestion of blood in the surrounding tissues occasion the morbid deposit?—that, in fact, they operate in a manner analogous to that of a local injury? The non-occurrence of cysts in the liver, walls of the stomach, the lungs, kidneys, lymphatic glands, brain, spleen, and blood, during the development of carcinoma, seems a rational objection to the general application of the doctrine of the cystic origin of tumours; but we are not sure that Dr. Hodgkin would not consider this statement a *petitio principii,* and allege that, although simple cysts containing fluid may not be present, yet the very carcinoma itself, when properly dissected, would prove the existence of the structure which is denied; viz. that of a cyst, the cavity of which is filled up by a number of smaller cysts, having the form of pedunculated tumours, upon which the larger cyst is reflected, in the manner of a serous membrane. With cysts of this description there may not perhaps be coincident cysts of the more ordinary kind, and yet the former may not the less exist. Whether carcinoma can in all cases be unravelled into such a growth as that which Dr. H. has described, is another question, which can only be

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* Since writing the above, we have examined a very striking case of carcinoma of the uterus, confined to the body and fundus. In the latter part, and in the posterior parietes, the morbid deposit resembled in colour and consistence a section of the white part of *brawn*. Where it projected into the cavity, and consequently suffered less pressure, it was softer, and had somewhat of a cauliflower appearance: in one part it was vascular and fungoid. The anterior wall of the organ was thinned, and partially ulcerated, by the pressure of the carcinomatous matter, which must have grown from behind forwards. But the most interesting appearance was a black discoloration of the serous surface, chiefly between the uterus and the rectum. We found it to be occasioned by a thin layer of extravasated blood under the peritoneum, which had most probably been blackened by the chemical agency of a very ill-conditioned fluid, that was contained in considerable quantity in the peritoneal sac. In the effused blood there were three patches of a dirty yellow substance, each rather larger than a sixpence.

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which we scarcely doubt was carcinomatous matter, separated from the blood. The extravasation we attributed to the congestion occasioned by the presence of the enlarged uterus upon the veins.

[*] Medico-Chirurgical Transactions, vol. xv.

determined by dissection, not by the presence or absence of cysts, such as we usually understand them.

We cannot leave this part of our subject without saying that, whether this theory be true or not, Dr. H.'s essay is extremely valuable in other respects; and particularly for a summary which it contains of the distinguishing characters of malignant diseases.

We can only present a very hasty abstract of Dr. Carswell's able description of the physical characters of Carcinoma. The three principal forms are, the Tuberiform, the Stratiform, and the Ramiform. The first of these is the most frequent and various, being in organs of equal density, globular; upon serous surfaces, passing from a globular to a pyriform shape, either on account of the mode of its attachment, or of less resistance being opposed to its growth in one direction than in another; fungiform, when resisted anteriorly, but free laterally; lobulated, when accumulated in separate portions of the cellular tissue; of a cauliflower or mulberry form in the submucous cellular membrane, being in that part collected in separate cells, and but little constrained in its increase by the mucous tissue.

> "That appearance of carcinoma which resembles the structure of the pancreas depends generally on the agglomeration of very small globular or pyriform tumours, separated from one another by cellular or cellulo-fibrous tissue, but inclosed in a common capsule." (Fasc. 3.)

The stratiform arrangement is met with chiefly in the subserous cellular tissue, the physical qualities of which sufficiently explain this distribution. We have traced it in the peritoneum, throughout the intestinal tube, as well as upon the abdominal parietes. In one case of this description which fell under our observation, the omentum was converted into a solid prism-shaped body, lying between the stomach and colon, flattened at one extremity near the spleen, and somewhat lobulated, so as to resemble the pancreas, for a disease and displacement of which it was at first mistaken, till that viscus was discovered in a tolerably healthy state. The ramiform arrangement takes place when the morbid matter is collected in the veins: this appearance is most frequently found in the kidney.

The *bulk* of carcinomatous formations is closely connected with the degree of pressure to which they are subjected. Their slow progress, when restrained by a fibrous membrane, and the frightful rapidity with which they increase where that obstacle is removed, are both exemplified in carcinoma of the eye, before and subsequently to the operation of extirpation. The bulk of these formations is not determined by physical causes only: in the cephalomatous species, the size and growth are mainly dependent on the vascular organization.

The *consistence* depends, 1st, upon the structure of the organ affected: thus, it is denser in the liver than in the brain, and in the skin than in the submucous cellular tissue, being subjected to greater pressure in the one situation than in the other: 2dly, upon the elementary composition of the deposit: thus, in the same stage of development, in the same organ, and with the same degree of pressure, as upon the surface of a sore formed by the destruction of the protruded portion of a tumour, (e. g. the bottom of the orbit after removal of the eye,) it will be found of very various density. 3dly. Upon certain changes in the matter itself and in the surrounding tissue, which we shall allude to directly.

The sections upon the chemical composition of Carcinoma, and upon its anatomical characters, will not admit of condensation. With regard to the latter, however, we must not omit to remark, that the accurate description of the structure of scirrhoma confirms the objections which we offered just now to the grounds upon which the author distinguishes this species of carcinoma. When he speaks of its containing cellular, fibrous, and serous tissues, and moreover takes some pains to prove that what Andral calls mere hypertrophy of the cellular membrane is in reality "a tissue *sui generis*, produced by the uniform distribution and molecular deposition of the carcinomatous matter, either in the cellular tissue of an organ, or in an accidental tissue of a similar kind, formed during the deposition of the carcinomatous matter," it seems surprising that he should have characterized it as indisposed to organization. That it does not become *vascular*, appears pretty certain; for, notwithstanding that vessels are occasionally perceptible, they will, upon careful examination, be found to belong to the tissues in which the deposit is formed. The description of the proper circulation of cephalomatous tumours, as distinguished from their collateral circulation, (Fasc. 3), is extremely graphic. In the course of some observations upon the physiological characters of carcinoma, the author shews satisfactorily enough how some of the most striking phenomena that occur during its progress are produced by alterations either in the proper or in the collateral circulation; a fact of considerable importance, inasmuch as it forbids our attributing, as we are but too apt to do, the changes in question to some specific processes peculiar to the morbid product. To take an instance: a mechanical congestion in the collateral veins is frequently the cause of such congestion in the whole or in a part of the tumour, as not only to alter its colour, but to produce hemorrhage, either internal or external. This occurrence may take place very early in the disease. We remember the case of a countryman who had a considerable tumour in the vicinity of the deltoid muscle, the origin of which he stated to have been almost sudden, after violent exertion with a flail. The abruptness of its appearance led many to think that some blood-vessel had accidentally given way during the muscular efforts; but the tumour proved ultimately to be genuine encephaloid, which, in all probability, had existed for some time prior to the violence, but had received a sudden accession of bulk by the occurrence of hemorrhage. Not only hemorrhage, but mortification, may result from the compression of veins: this compression being sometimes caused by smaller tumours in the neighbourhood of the formation, and sometimes by the unyielding nature of the tissue.

We extract the following account of the ulceration of carcinoma.

> "It is well known that it is the most projecting part of a tumour situated beneath the skin in which a solution of continuity commences; and the reason of this is, that it is here the circulation is first arrested from the greater degree of compression to which the blood-vessels are subjected, together with the increased influx of blood caused by a greater degree of irritation. The most elevated portion of the skin becomes atrophiated during the first stage of compression and irritation, that is, when the circulation of the blood through it is only impeded; but so soon as this all-important function has ceased, which is announced by a change of colour from bright to dark red, purple, or black, a diminution of sensibility and temperature, it begins to soften, soon sloughs and exposes the subjacent portion of the tumour whose circulation had been similarly modified, softened, and deprived of vitality to a greater or less depth. The edges of the solution of continuity of the skin when first formed are sharp and irregular, they are not *everted;* they are, on the contrary, sometimes *inverted;* and their thickness is in proportion to the depth of the slough. The peculiarity of form assigned to the edges is produced by the subsequent development of the carcinomatous substance situated beneath them, which, being entirely freed from pressure all round their internal margin, necessarily projects forwards, as it grows, towards the centre of the tumour hollowed out by the softening and sloughing process, and, consequently, carries them gradually upwards and backwards. They acquire at the same time, a great accession of bulk, and form a rounded undulating border, beneath which the skin is found doubled upon itself, encircling the carcinomatous excavation." (Fasc. 3.)

We may remark, that Dr. Hodgkin's mode of accounting for the peculiar ulcer is in some respects similar to the above. Believing the whole formation to consist of several cystiform tumours growing from a common cyst, he states that, in the progress of growth, the central tumours are so compressed and strangulated, by the increasing bulk of those around them, as to lose their vitality; and thus to become the subjects of a softening and sloughing process. For the production of this effect, however, he thinks that the strangulation must be somewhat sudden: otherwise, the central bodies may be converted into a dense structure, and ultimately become penetrated by earthy particles. Such changes occur in the scirrhous tubercles of the liver and of the uterus.

All the changes incident to Cephaloma, viz. congestion, hemorrhage, softening, and sloughing, may occur also in Scirrhoma; but, in the latter, they depend on the vascular system of the tissues contained in the carcinomatous matter; in the former, upon the proper and collateral circulation.

Nerves have never been reproduced in Carcinoma. This we might, *a priori,* infer from our knowledge of the laws of organic development. Carcinoma, a deteriorated organization, could never present that which all analogies lead us to believe to be the *summum opus* of the *nisus formativus.*

Melanoma is not, as it might at first-sight appear, an accommodation of the terminal syllable of the more familiar designation to that of Carcinoma. It implies more than the melanosis of Laennec; for, whereas the latter was the name given to a morbid product, *sui generis*, the former is employed by Dr. Carswell to signify all "black discolorations or products," which he separates into two groups, the True and the Spurious. Upon the description of the former of these we do not think it requisite to enter, though it possesses a particular interest, by reminding us of some of the author's earlier researches, conducted in concert with one whose bright though brief career promised much to the pathology of his country. We allude to the late Dr. W. Cullen, who published a joint memoir with our author upon Melanosis, in the second volume of the Edinburgh Medico-Chirurgical Transactions. The source of this, as of the other morbid formations which have engaged our attention, Dr. Carswell traces to the blood, in which he is of opinion that there is an accumulation of the carbon usually employed in colouring the hair, the rete mucosum, the choroid, and other parts. It is a curious fact, and certainly a presumption in favour of this notion, that grey and white horses are much more subject to melanotic formations than the bay, black, or brown. Chemical analysis, and the anatomical distribution of the substance, certainly lead us to believe that it is derived from the blood: whether it be really identical with the matter usually appropriated to natural colours and pigments, we do not pretend to determine: for Dr. C.'s arguments we must refer the reader to the work itself.

Of the pseudo-melanotic formations, the first described by the author is that which occurs in the lungs, and which is produced by the introduction of carbonaceous matter. Mr. Pearson, and subsequently Laennec, had intimated that some kinds of pulmonary discoloration were owing to carbonaceous impregnation of the tissue; but the opinion was first put to the test of experiment, in a case published by Dr. J. C. Gregory, in the Edinburgh Medical and Surgical Journal, No. cix. Dr. Christison's analysis of the black matter contained in the lungs identified it with "the ordinary products of the distillation of coal."

> "The physical characters of this form of spurious melanosis, viz. the uniform black colour of both lungs; the absence of any similar discoloration of any other organ; the occurrence of the disease in those habitually exposed to the inhalation of the coal-dust always contained in the atmosphere of a mine; and the black matter found in the lungs consisting essentially of this substance; are circumstances which demonstrate clearly the origin of the black matter, and its identity with the carbonaceous powder inhaled with the air in breathing." (Fasc. 4.)

Another species results from the operation of chemical agents on the blood. Of these, the most common are the acid contents, whether natural or morbid, of the alimentary canal. The discolorations vary "from a dull yellow orange tint to the colour of chocolate, bistre, or soot." The distribution is punctiform and ramiform when the blood acted upon is contained in the capillaries and veins of the stomach; and its extent is proportionate to the quantity and to the diffusion of the gastric acid, and its intensity to the quantity of blood contained in the vessels of that organ. The following observations are very interesting:

"The ramiform black discoloration of the blood from the pressure of an acid is seldom met with in the intestines, but the punctiform is not uncommon. The latter takes place in the capillaries of the villosities, and in those around the orifices and bases of the follicles. When the villosities are the seat of the discoloration, the surface of the mucous membrane appears as if it had been dusted all over with fine powdered charcoal, which gives to it a deep grey or slate colour. The discoloration may occupy the orifice of a number of contiguous isolated follicles, or of the aggregated follicles, and give rise to an appearance resembling acne punctata; or it may surround the orifice or basis of the isolated follicles, when it has an annular form.

"These appearances observed in the villous and follicular structures of the intestine have always been confounded with those produced by chronic inflammation. Both lesions are so similar in their physical characters, that it is only from the absence or presence of an acid in the affected portions of the intestine that we can form a decided opinion on the nature of either.

"The ramiform black discoloration of the blood is met with occasionally on the peritoneum, in cases of chronic tubercular peritonitis. The tubercles scattered over the surface of the peritoneum are surrounded by a dark ring, or a multitude of minute vessels, filled with black blood, either grouped close together, or having a stellated arrangement. The tubercles, if small, are thereby greatly obscured, and the peritoneum appears as if spotted with a deep brown, or black pigment." (Fasc. 4.)

The *stratiform* discoloration is most frequently seen either in the subserous tissue of the peritoneum, or in its accidental membranes when blood has been effused. The *liquiform* occurs in the stomach, when hemorrhage from any cause has taken place, and constitutes the black vomit of cancer. Perhaps, the "coffee-grounds" vomit owns a similar cause. Melæna, and the black pitchy matter found upon ulcers of the large intestines, are, as every one knows, referrible to the action of sulphuretted hydrogen upon blood. Blood in the peritoneal cavity is sometimes blackened; in which case it is probable that the gaseous acid just mentioned is the agent, after penetrating the coats of the intestine.

Stagnation of the blood in the capillaries, or venous extremities, is sufficient to produce a spurious melanosis, without the cooperation of any chemical agent. The blackness is attributed by Dr. Carswell to coagulation, and to the escape of the serum, which carries away with it the saline particles, which there is good reason to believe have much to do with the red colour of the blood. In the lungs, this kind of discoloration constitutes the "matière noire pulmonaire," and may occur in any disease which is attended with much obstruction to the pulmonary circulation.

> "The grey or bluish grey colour of the tuberculous matter so often met with, is occasioned by the presence of these black points, which appear to have their seats in the air-cells, the circulation in which is early impeded by the accumulation of the tuberculous matter within them." (Fasc. 4.)

The blackening of the bronchial glands is due to the same causes. It is most frequent in aged persons, but occasionallv is found in young subjects affected with tubercular phthisis. We have found amid a cluster of these glands, enormously enlarged by tuberculous deposit, two or three smaller ones of a bluish black; in which it is possible that sanguineous obstruction had been occasioned by the morbid enlargement of the others, while the obstruction was perhaps a preventive of the secretion of the tuberculous matter to the same extent.

The dark discoloration which is found in the mucous membrane of the intestines, and particularly of the cœcum and colon, (designated by French writers "*coloration ardoisée,*" is frequently the result of chronic inflammation; but it may be imitated by the action of acid matter upon the blood contained in the capillaries of the membrane. Dr. Carswell thinks that there is no other method of distinguishing the pseudo-morbid appearance than that of testing the presence of an acid. We conceive, however, that there would be but little use in this procedure when the agent has been sulphuretted hydrogen, notwithstanding it is a gaseous acid. The fallacies to which this coloration is likely to give rise were first pointed out, we believe, by MM. Kigot and Trousseau. In the present state of our knowledge, we must be content to decide upon the value of this sign, in much the same manner as upon that of *redness;* namely, by ascertaining whether it is accompanied or not by changes in the consistence or thickness of the tissue, or in the secretions of the part discoloured.

The subject of the fifth fasciculus is *Softening.* Were the term confined to that species of softening which is a perversion of nutrition, *sui generis,* there would be no objection to its arrangement among the "elementary forms;" but when we find ramollissement from inflammation, and from obliteration of arteries, placed under this head, it is impossible to help being struck with the inconsistency; more particularly as the author does not think it requisite to devote a special discussion to the idiopathic species. He remarks, however, in general terms, that softening may be the effect of a lesion of the blood, and may extend to the tissues generally.

> "But there is another kind of this lesion, of a much more general character, and which is also very different in its nature from the two former. It occurs in almost all the textures of the body at the same time, although it may be so slight in some as hardly to be observable;

whilst in others, even the hardiest, it may be strongly marked. It is never observed unless in individuals in whom nutrition in general is greatly modified. The modification of nutrition which precedes the softening process is, however, very different in kind in different individuals, a difference which obviously exercises a great influence in determining the seat and severity of the disease. Thus, in children born in a state of debility and emaciation, and in those who have long been deprived of the wholesome necessaries of life, we find all the tissues and organs of the body more or less soft and easily injured by external causes. This general diminution of cohesion is accompanied by universal pallor, a watery, scanty, and a plastic state of the blood. Such, also, is the case in advanced stages of tuberculous disease and scorbutus, the bones, as well as the other textures being found, in those who die of these diseases, soft, spongy, and infiltrated with a sero-albuminous, or sero-sanguinolent fluid." (Fasc. 5.)

We shall entirely pass over the observations upon softening produced by inflammation and by the obliteration of arteries, in order that we may have more room to notice the Softening by Gastric Acid; a subject peculiarly the author's own. There is no fact better established than that of the dissolution of the stomach and adjacent organs, by a secretion produced in the former. If any doubt could be entertained upon this point after the researches of John Hunter, Spallanzani, Adams, and Allan Burns, it must be dispelled from every candid mind by the experiments of Dr. Carswell. These we shall not enumerate, but proceed to the appearances presented by a stomach which has been acted upon by the gastric *acid*, as the author designates that secretion. That it *is* acid, is proved by its reddening litmus paper; and that the acid property is essential to its solvent action, is inferred from the fact that dissolution does not take place when the fluid has been neutralized. The situation of the softening (which may go on to erosion and perforation,) is always in the most depending part of the organ. This is generally the fundus, but unnatural states of neighbouring parts, (enlargement of the spleen and liver, for instance,) as well as the position of the body, must necessarily produce variations in this respect. The following description is so admirably faithful, that we should be sorry to disfigure by attempting to abridge it.

"The form of chemical softening of the coats of the stomach by the gastric acid presents several important varieties. If the softening be confined to the mucous membrane of the fundus, the form which it assumes is that of small or large patches. These are generally irregular, their bodies being formed by the mucous membrane, and the bottoms of each by the submucous coat; their edges, besides being irregular, are thin, soft, and somewhat transparent. If the softening has extended to the other coats of the stomach, the edges of these are beveled outwards, present a fringed appearance, or terminate in thin irregular prolongations which when water is poured upon them are seen to float like shreds of transparent coagulable lymph. Such are the forms of softening of the mucous membrane, so long as this membrane is smooth or stretched out by the contents of the stomach. But when this membrane is thrown into folds, or forms plicæ, the softening occurs no longer in patches, but presents those remarkable appearances described by M. Louis, as indicating the existence of pathological alterations. The forms of the softening in this case are those of stripes and bands of various dimensions occupying the situation of the plicæ. Wherever these stripes and bands exist, we find that the mucous membrane has been completely dissolved and the submucous coat laid bare. They have thus a bluish or silvery grey aspect, while the mucous membrane which they enclose may be of its natural colour, red, brown, or yellow, and appears in isolated patches of various forms and extent. It was the isolated and defined character of this form of softening which made it be considered as indisputably of a pathological nature. But the following explanation will show that it is a *post-mortem* lesion, and the consequence of the chemical action of the gastric acid. The mucous membrane possessing only in a very limited degree the power of diminishing its bulk, is always thrown into the form of plicæ when the muscular coat has contracted so as to diminish considerably the capacity of the stomach. When a quantity of gastric acid is collected on the surface of the mucous membrane in this state, it is obvious that the dissolvent property of this fluid will be exerted principally, if not exclusively, on the projecting borders of the plicæ, their lateral surfaces being protected from its action in consequence of their contiguity, or the mucous collected between them. Hence it follows, that when the stomach is removed from the body, emptied of its contents and spread out, the plicæ are effaced, and the stripes and bands, not before observed, make their appearance. That this is the manner in which this form of softening is produced is readily demonstrated by placing a quantity of gastric acid or digested food on the mucous membrane of a stomach in which the plicæ are well marked. In a few hours the appearances I have described will be conspicuous. The presence of gas in the stomach gives rise to another form of softening which requires to be noticed. The softening terminates in a well-defined abrupt margin, beyond which the mucous membrane is found to present (so far, at least, as the gastric acid is concerned) its natural colour and consistence. The regular and defined margin of the softening is determined by the gas acting as a foreign body, equalizing the distribution of the acid, and confining its operation to a circumscribed portion of the mucous membrane." (Fasc. 5.)

The colour of the part acted upon by the gastric acid is modified by the quantity of blood contained in the vessels. Under our own observation, it has been nearly always of a dull white, traversed by lines of a sooty appearance, evidently the remnants of blood-vessels, the contents of which had been discoloured by the acid. When the tissue is quite pale, as in infants and in leucophlegmatic subjects, the softened part, according to Dr. C., presents the same appearances as those described by Cruveilhier as gelatiniform softening, and as the result of a peculiar morbid process during life. This view is altogether denied by our author, who believes that the supposed instances of this disease are referrible to the mere chemical change. Upon this point we are of opinion that Dr. Carswell has not done full justice to Cruveilhier; though we believe the omission to have been unintentional. After reading the essay of our countryman, we might very easily imagine that the French pathologist had arranged under *Ramollissement gélatiniforme* changes which ought undoubtedly to be attributed to chemical action: whereas, he has described very fully a disorganization which he terms *Ramollissement pultacé,** and which corresponds exactly to that which Dr. Carswell has been so successful in explaining. Cruveilhier has moreover delineated this softening in a plate, the beauty and accuracy of which are not surpassed even by those in the work before us. Several distinctions are drawn by him between this alteration and the gelatiniform softening; and he adduces some special reasons for considering the latter to be a vital process, the most cogent of which are the alleged facts that it is occasionally found in the anterior parietes of the stomach, and that it occurs in individuals who have died after a very short illness, the symptoms of which were those of intense irritation in that organ. The argument derived from the symptoms may perhaps be neutralized by enquiring, with Dr. Carswell, how we are to account for these appearances being often absent in persons who die with similar signs of derangement, except by concluding that, in these instances, the gastric acid was wanting. We doubt, however, whether persons do die so suddenly of any other spontaneous structural disease of the stomach than that which Cruveilhier has described.

The occasional situation of the lesion in the *anterior* part of the organ, if a fact, is not to be disposed of very easily; but, with the exception of Cruveilhier's case, (of which he has given a delineation,) we know of no instance in which the lesion is specified as having occupied that situation, unless the much-controverted case of Miss Burns may be considered an example. In the mean time we see nothing unphilosophical in the idea, that there may be a spontaneous perversion of nutrition in the coats of the stomach, as well as in the brain or in any other organ, or in Cruveilhier's notion "que les maladies impriment à nos organes des altérations tout-à-fait identiques à celles que certains agens physiques et chimiques peuvent déterminer." Dr. J. Gairdner, who published, in the first volume of the Edinburgh Medico-Chirurgical Transactions, a very interesting paper entitled "Cases of Infantile Disease, in which Erosion and Perforation of the Alimentary Canal were found after Death," appears to hold a sort of middle opinion, viz. that in some cases the disease renders the tissue more susceptible of the solvent action. On consulting his tables, which contain upwards of forty cases of perforation, we could not find one in which the lesion was in the fore part of the stomach. In conclu-

* Anat. Pathol. liv. x.

sion, we must remark that these changes are highly deserving of study, not only with reference to what we have just hinted at, but also in connexion with the action of deleterious substances. As yet we are not aware that the action of any irritating substance can imitate the process in question, be this a spontaneous softening or a chemical dissolution; but we must bear in mind that it does *not* necessarily preclude the idea of poisonous agency.

The fasciculus devoted to *Hemorrhage* contains an exceedingly well-executed compendium of modern researches upon the subject; and, though interspersed with many remarks which prove that the phenomena have passed under the writer's own observation, yet is furnished with less of original matter than the preceding numbers. This is a necessary consequence of the advancement which had been effected in this department of pathology, previously to Dr. Carswell's researches. We imagine that there are few subjects upon which the minds of physicians are so well agreed as upon the nature of the different states of the system, or of parts of it, in which hemorrhage occurs; notwithstanding that, in any given case, considerable doubt may arise as to which of the acknowledged causes must be considered answerable for the lesion. Perhaps, also, it may be said, that there are few subjects upon which so much light has been thrown by modern investigation, from the time of Cullen downwards. At present, the greatest field for discovery is in the modifications which hemorrhages undergo according to the organs, and in their relation with nervous functions. The knowledge which we require upon these points has respect not so much to the immediate cause of the hemorrhage, as to the congestion or determination which precedes it.

Dr. Carswell classifies hemorrhages under two heads, according as they result from physical or from vital lesions. The first class comprehends all hemorrhages produced by solutions of continuity, and by mechanical obstacles of the circulation, whether in the heart or in the vessels. Under the second class are arranged those occasioned by, 1st, certain alterations in the functions of the capillaries, as in vicarious hemorrhage, and in the anormal vascular tissue of cephaloma, and in erectile tissue; 2dly, by diseased states of the blood, as in scorbutus, and in certain forms of purpura and typhus; 3dly, by debility, as in the depending parts of the body. We are somewhat surprised that, neither in this classification, nor in the remarks which follow it, is any mention made of that hemorrhage which results from plethora or hyperæmia, whether general or partial; a form of the disorder which meets us almost as frequently as any other, and upon the diagnosis of which such momentous questions in practice depend. Certainly it is not less established that hemorrhage is a common result of an excess of circulating fluid in the whole or in a part of the system, than that inflammation and dropsy are chargeable to such a condition. It is true that hemorrhage from partial plethora might seem fairly susceptible of arrangement under the alterations of the functions of the capillaries; yet it does not necessarily belong to those specified by the author, since it may be neither vicarious of a natural action, nor dependent on a preternatural tissue.

In the course of some remarks upon the locality of sanguineous effusion, and particularly upon this occurrence within the cranium, the author departs from his usual course to speak of the connexion between paralysis of particular parts of the body and hemorrhage in particular divisions of the encephalon. His observation has led him to dispute the correctness of the statements that have been made respecting the correspondence of paralysis of the inferior extremities with effusion in the corpora striata, or in the parts level with or anterior to them; and an analogous correspondence of paralysis of the superior extremities with effusion in the thalami, or on a level with or posteriorly to them. Nor is he less unwilling to allow any necessary connexion between loss of speech and effusion in the anterior lobes of the brain. It has afforded us much satisfaction to find his experience upon this subject so confirmatory of our own. Considering the high rank occupied by the pathologists from whom the observations alluded to were derived, we should have been disposed to mistrust our own negative opinion, unless supported by such powerful authority as that of our distinguished countryman. We do not hesitate to copy his summary of the best-established facts regarding the question at issue.

"1st. That the paralysis occupies the side of the body opposite to that of the brain or cerebellum in which the effused blood is situated.

"2d. That the paralysis affects only one side of the body when the effused blood is confined to one hemisphere of the brain, or one of the lateral lobes of the cerebellum.

"3d. That the paralysis exists on both sides of the body when the hemorrhage has taken place in both hemispheres of the brain, or both lateral lobes of the cerebellum; into the ventricles; the pons varolii the medulla oblongata; and on the surface of the brain.

"4th. That paralysis of both sides of the body may also take place when the hemorrhage is confined to one hemisphere of the brain or lateral lobe of the cerebellum, but is so extensive as to produce compression of the opposite hemisphere or lobe." (Fasc. 6.)

It may not be out of place to remind our readers that the researches of Andral have led him to very similar conclusions respecting the insufficiency of any pathological facts yet ascertained, to establish what parts of the brain are the respective organs of motific impulse for the superior and inferior extremities. Out of seventy-five cases of cerebral hemorrhage sufficiently circumscribed to serve for the illustration of the question, forty had been attended with hemiplegia, affecting both the arm and the leg. Of these forty, twenty presented the lesion either in the anterior lobe or in the corpus striatum; while, in nineteen, the lesion was either in the posterior lobe or in the thalami. In twenty-three out of the seventy-five, the paralysis was confined to the upper extremity; and, of these, eleven were caused by hemorrhage in the corpus striatum or in the anterior lobe, ten by the same lesion in the thalamus or in the posterior lobe, and two in the middle lobe. In twelve out of the seventy-five, the paralysis affected the lower extremity only; and, of these, ten were complicated with hemorrhage in the corpus striatum or in the anterior lobe, and two with hemorrhage in the posterior lobe or in the thalami. Undoubtedly, says Andral, there are distinct origins of motion for the arm and leg, but as yet we are unacquainted with their locality.*

An interesting remark is made upon venous hemorrhage from ulceration of a varix. In a case of this kind, hemorrhage from a very moderate-sized vein may be fatal in a few minutes, in consequence of the thickening of the parietes by chronic inflammation, and of their union with surrounding cellular tissue in a state of induration; circumstances which prevent the sides from being brought into contact, unless considerable pressure be exerted. Among, some observations upon the effects of effusion upon the parts in which it occurs, a valuable case is related in proof of the capability which the brain possesses of bearing compression, when made gradually. A man fell upon the pavement, in a fit of intoxication, but suffered no material inconvenience, except a diminution of muscular strength and steadiness for three weeks afterwards; about which time he drank a strong stimulating potion, and soon afterwards became apoplectic and paralytic, and died on the following day. Dissection proved that six ounces of blood had been effused between the dura mater and arachnoid: it was partly fluid and partly coagulated, and red, or almost black; there was also false membrane on the internal surface of the dura mater, in which tissue several new vessels had been formed. These appearances proved that the effusion had been gradual, and that the compression had only produced serious mischief when the excitement of the circulation by the potion had hurried more blood into the cerebrum than could be tolerated, in addition to what had been effused. The author hints at analogous instances in the history of chronic abscesses, and in the slow accumulation of water in the ventricles, in illustration of the law, that the derangement produced by pressure is in a direct ratio with the rapidity with which the latter is effected.

The section upon the changes which the effused blood undergoes will be perused with much interest. It contains an excellent account of the two principal modes in which sanguineous effusions in the brain are disposed of: the first consisting of coagulation and conversion into a fibrous tissue, which is gradually reduced to a mere cicatrix; the second being the gradual transformation of the fibrinous substance into a loose cellular tissue, containing serous fluid, which fluid increases, while the cellular membrane diminishes, till a complete cyst is formed; the removal of which may in time be affected by absorption of the fluid, and adhesion of the walls of the cyst, so as to form a cicatrix.

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* Clinique Médicale, t. v. p. 368.

"Such appear to be the two modes which nature employs to accomplish the cure of a solution of continuity occasioned in the brain by an effusion of blood. That the paralysis generally diminishes during the progress of the curative process; that the degree of diminution which it undergoes corresponds sometimes with the more advanced stages of this process and that it completely disappears with the cicatrization of the original lesion, are facts well established. But the cases in which these relations are observed are far from being numerous, the same stage of the curative process—a cyst, being often found in cases of severe paralysis which had never undergone any sensible diminution; in others in which it had nearly disappeared, and in some few in which no traces of it were observable several years before death. Some of these differences with regard to the degree of the paralysis may depend on a difference in the seat of the original lesion, the extent of this, and the degree of injury done to the fibrous structure of the brain. But how far these or other circumstances will be found sufficient to remove the difficulties which beset this subject remains to be determined by future observation." (Fasc. 6.)

We must refer the reader to the description of the physical qualities of hemorrhage, according to the tissues and organs in which it occurs; and particularly to the researches upon pulmonary hemorrhage, and also those upon hemorrhage in the skin and cellular tissue. The latter would have been more complete, had the author alluded to that form of purpura, whether simple or hemorrhagic, which depends upon a plethoric and sthenic state of the system: whereas, his remarks apply only to those forms which result from a deteriorated state of the blood. The plates in this fasciculus are admirably true to nature, and therefore highly instructive. That which illustrates the formation of hemorrhoidal tumours, and that which represents the extravasations sometimes produced in the stomach by irritating substances, are worthy of particular attention.

The fasciculus headed *Mortification* abounds in details of the highest value, and at the same time happily exhibits how wide an illumination may be shed over a great variety of facts, before obscure and unconnected, by the exposition of one or two simple principles. Thus, in following the author through his masterly description of the different changes which occur in that form of gangrene, or sphacelus, which results from inflammation in various tissues, the student will find them intelligible enough, when viewed as dependent on a cessation of the circulation; a state which, in some parts, is produced either by the pressure which the fluids, effused in consequence of the inflammation, exert upon the vessels, or by the mere coagulation of the blood in them, and by their consequent obstruction. These changes may ensue either in the vessels of the mortified tissue itself, or of that from which it derives its nutriment. To take an instance in the morbid appearances presented by the cellular tissue in fatal cases of erysipelas phlegmonodes.

> "They would seem to prove that the rapidly destructive effects of this form of inflammation depend in a great measure on the mechanical influence exercised by the effused fluids on the capillary circulation. These fluids must compress the neighbouring veins to a degree that will prevent the return of the blood poured into the capillaries, the function of nutrition must then cease to be accomplished, as is proved by the great diminution of cohesion which is observed to have taken place in the cellular tissue in the second stage of the disease; and as there is no tendency towards the formation of coagulable lymph, by the presence of which alone the inflammatory congestion can be arrested, the state of gangrene which this stage indicates must necessarily terminate in sphacelus. It is indeed well known that free mechanical division of the skin and cellular tissue, especially in the first stage of the disease, is the most effectual means that can be employed to arrest its progress;—a mode of treatment the obvious effect of which is to remove to a greater or less extent the distention of these tissues and the mechanical cause by which it is produced." (Fasc. 7.)

In furunculus and carbuncle, the nutrition of a portion of cellular membrane is cut off by the pressure of the surrounding tissue, tumefied and indurated both by the accumulation of blood and by the effusion of serum; a simple and satisfactory explanation of what is commonly called loss of vitality. In the pulmonary substance a similar set of changes may occur. In serous membranes, the circulation is arrested, not so much by lesion of their own vessels, as of those upon which the latter are entirely dependent for their supply of fluid: those, namely, which belong to the subserous cellular membrane, and which may be either obstructed or destroyed by inflammation and sphacelus. Mortification in fibrous membranes, cartilage, and bone, is always preceded by destruction of surrounding tissues. In the pleura, it is frequently caused by tubercles under that membrane. Many other instances are enumerated and explained in the most lucid manner in the first section, or that which treats of mortification as the result of inflammation. The remarks upon the state of the vessels in mortification, as observed in experiments upon the frog's foot, or in the mesentery of the rabbit, are concise, but present little novelty. Respecting the prevention of hemorrhage in gangrenous processes, the author expresses an opinion that, while it is occasioned in the smaller vessels by adhesive inflammation, it is dependent in the larger on the coagulation of the blood which they contain. Thus, it often happens that, in amputation of a limb, rendered necessary by the threatened spread of gangrene, the large vessels yield little or no blood, being obliterated by coagula.

The cessation of the circulation, in most of the cases to which we have hitherto alluded, has been occasioned by an arrest of the supply of fluid going to the tissue; but it may also result from an obstruction to the return. Thus, gangrene of the lower extremities may be the consequence of disease of the heart. This remote obstacle, however, will be greatly assisted in the production of gangrene by the effusion of serum which it has occasioned in the limb, and by the consequent pressure on the veins. Internal organs are likewise subject to gangrene from venous obstruction. A deposit of coagulable lymph or of tubercle may obstruct the venous circulation of a portion of lung, and cause it to sphacelate; and carcinomatous tumours may have the same effect in the liver. The following extract well describes the process in another internal organ.

> "Mortification from a mechanical obstacle to the return of the venous blood, is well exemplified in intus-susception of the intestines. When the superior portion of intestine passes into the inferior, it carries along with it that part of the mesentery to which it is attached. If it does not suffer much compression, the invaginating process may go on to a great extent; but if it is compressed to such a degree that the return of the venous blood is obstructed, this stage of the disease is arrested, on account of the congestion of all the tunics of the invaginated portion. The congestion is not the consequence of inflammation; it is produced by compression, and in the following manner:—when the mesentery is put on the stretch by the descent of the superior into the inferior portion of the intestine, the veins belonging to it are compressed between the walls of both portions, just at the point where the invagination terminates superiorly. If adhesive inflammation takes place at this point, the peritoneal surfaces of both portions become united, and the veins obliterated. As the arteries are much less affected by pressure than the veins, they continue to pour in their blood into the invaginated portion; this fluid accumulates, and produces an extreme degree of congestion of the mucous and submucous coats, giving to them a deep red or almost black colour. In this state, however, the intestine is not deprived of its vitality. It is in a state of gangrene, but not of sphacelus; for its structure is still entire, and it may, when separated and evacuated, present, after having been macerated for some time so as to deprive it of the blood which it contains, the most perfect state of integrity of all its tunics. Occasionally, however, a portion of the whole of the invaginated intestine is found in a state of complete sphacelus, and is passed in the form of irregular spongy masses or shreds of a dirty ash-grey, brown, or black colour." (Fasc. 7.)

Of mortification by mechanical obstruction of the arteries, gangræna senilis is a familiar and striking illustration. The author very forcibly exposes the error of attributing this state to acute inflammation of the arteries; an opinion delivered in the "Leçons Orales" of M. Dupuytren.

Mortification may affect a part where neither inflammation has previously existed, nor the circulation been mechanically obstructed.

It may be the mere effect of *debility:* by which is meant such a change in the innervation and nutrition of the part as renders it incapable of removing an accumulation of blood, and apparently causes an alteration in the chemical qualities of this fluid. There is usually, however, some accidental congestion antecedent to the change in question, determined by such causes as pressure, friction, punctures, leech-bites, &c. To this species belongs the sphacelus of scorbutic patients, and that frightful disease of children called Stomacace gangrenosa, Necrosis infantilis, &c.; of which the reader will find a vivid description in this fasciculus, (Fasc. 7.) There is a section upon mortification from mechanical, chemical, and physical agents; and another upon mortification from certain poisons, such as the venom of certain animals, the products of disease or of putrefaction, and the ergot of rye; but they do not contain any thing sufficiently remarkable to induce us to dwell upon them.

This fasciculus contains a beautiful plate illustrative of gangrenous perforation of the intestines. The others strike us more by the artist-like manner in which they are executed, than by the information which they communicate.

The title of the last fasciculus yet published recalls some objections, which we have urged more than once. Under any view of the process whereby *Pus* is secreted, we should be unwilling to designate it as an "elementary form," but particularly if the principle be admitted, which the author takes great pains to establish, that it is always preceded by inflammation, and consequently that it is neither an elementary form nor an initiatory event.

Dr. Carswell, among his many other claims upon our approbation, presents that of being zealous in asserting the honours of British medicine. In the warmth of their admiration for the industry of the continental authors, writers in this country have of late years been too much inclined to ascribe all the important discoveries in pathology to a foreign origin; a notion which an exclusive perusal of continental publications would be very likely to engender. In the present fasciculus, by a careful and concise analysis of Mr. Hunter's researches, it is proved that this great pathologist was the first to effect a complete destruction of the old errors upon the formation of pus, and to establish a rational explanation of the process. It need scarcely be mentioned, that suppuration was in former times supposed to be a conversion of solid into liquid matter, by solution, corrosion, putrefaction, &c. The true nature of the process was first suspected by Dr. Simpson, of St. Andrew's, who, in 1722, compared a suppurating surface to "a kind of new gland." De Haen, in 1756, hinted that pus is a direct secretion from the blood; but this opinion, as is remarked by Professor John Thomson, was first embodied into a general doctrine in an inaugural essay by Dr. Morgan, in 1763.

"The principles of the new theory of the formation of pus which had been thus introduced, soon found several able supporters, among whom Mr. Hunter may be regarded as the first who furnished satisfactory evidence of their accuracy, by means of new facts and illustrations derived from his experiments on living animals, and his researches on suppurative inflammation and on pus." (Fasc. 8.)

After a statement of Mr. Hunter's conclusions, our author describes the changes in a suppurating part, according to the well-known microscopical researches of Kaltenbrunner and Gendrin. Besides the important observation of the actual conversion of the globules of blood into pus, these experimenters established that the change takes place, not merely when the blood is contained in the capillaries, but also when it has been effused into the surrounding tissue; whence it necessarily follows that the process is independent of capillary mechanism. The essential changes are, cessation of the circulation, coagulation, loss of colour, and conversion of the fibrin into pus; but, in order that the blood, when coagulated, should undergo this transformation, it is essential, in Dr. Carswell's opinion, that the surrounding parts should be in a state of inflammation. In one experiment, after having injected a quantity of blood into the subcutaneous cellular tissue, Gendrin passed a seton through this tissue, in order to excite inflammation; and the consequence was, that the effused blood was converted into pus. In another experiment, he injected an irritant liquid into a portion of vein included between two ligatures, and, after re-admitting the blood, confined it in the same position: coagulation and suppuration were the result. These experiments certainly warrant the opinion that the changes of the blood were direct consequences of the inflammation; but they do not seem to us to prove that suppuration might not follow the coagulation induced by other causes. Now, there is no question that pus has often been found in tissues where there was not the slightest proof of inflammation having existed; as, for example, in coagula contained within the cavities of the heart: not to mention those anomalous purulent deposits which excited so much discussion a few years ago. In these cases, Dr. Carswell considers that the mere presence of pus as a foreign body has been often mistaken for a vital process of suppuration. His own experience has led him to believe that these deposits are never found unless inflammation and suppuration have existed in some parts of the system. The statement made by Andral and Maréchal, of their having discovered pus in the coagula of the heart, when no traces of suppuration could be detected elsewhere, he considers too vague to alter his belief; and he, moreover, thinks that the fluid found in such cases is not genuine pus, though it resembles that which is contained in concretions formed during inflammation of the internal membrane of the heart; a circumstance which tends to identify it as a product of inflammation.

It is certainly a fact deserving all the importanee which Dr.

Carswell attaches to it, that, in nearly all the cases of suppurative inflammation with which the anomalous formations in question are complicated, the pus is situated in the veins of the part affected: in such cases it is easy to perceive how the morbid product may be carried into the blood. The cases alluded to are those connected with external suppurating sores, wounds, operations, fractures, phlebitis (either idiopathic or consequent to bloodletting), parturition, &c. &c. After admitting that pus is conveyed into the blood, we have to consider in what manner it produces the deposits in various tissues. Two opinions have been formed upon this subject: Velpeau, Maréchal, and Rochoux consider the deposits to be the consequences of the separation of the pus from the blood, and its subsequent accumulation in the capillaries or in the cellular tissue. According to others,—Dance, Blandin, and Cruveilhier,—they are the result of suppurative inflammation, induced by the pus acting as a foreign body, either in the capillaries or in the smaller veins. Both these opinions are pronounced by our author to be supported by numerous facts: but upon this subject we prefer that he should speak for himself.

"We have already seen that such deposits take place in coagula formed in the cavities of the heart, and it would be difficult to assign a reason why they should not take place in other organs, if circumstances occurred to interrupt the circulation through the capillaries. It is possible that the pus itself might effect this change in the capillary circulation, and occasion those circumscribed congestions so conspicuously seen in the lungs, and which constitute the first stage of the purulent deposits in these organs. The formation of the pus in these cases can be seen to take place in the same manner as in the coagula in the cavities of the heart. The blood with which the capillaries are distended, and which is sometimes effused at the same time into the surrounding cellular tissue, is coagulated, of a deep red colour, and forms globular masses varying from the size of a pea to that of a walnut, of considerable density. The first appearance of the pus in these masses is recognized by the presence of a number of pale yellowish-grey points, which increase in number and bulk until the whole of the blood is converted into a substance resembling in colour and consistence the fibrine of the blood. After this, the second stage is observed to follow the conversion of the fibrine into pus, and the formation of an abscess, the size of which is determined by the extent of the previous congestion. In some cases, however, the formation of the pus does not appear to be preceded, in the manner just described, by the separation of the fibrine into a solid mass. It is occasionally found in drops in the coagulated blood, and therefore bearing a stronger analogy to what we have seen takes place in coagula in the cavities of the heart. A similar mode of formation of the purulent deposits has been observed in the subcutaneous and intermuscular cellular tissue, in the spleen, and in the liver. In this latter organ, however, these deposits present an appearance peculiarly characteristic of their origin, and which will be described in the plates in which they are represented. To these facts, in support of the opinion that purulent deposits are formed by the separation of pus from the blood, may be added those which disprove the existence of inflammation as their efficient cause, such as the absence of vascular congestion, of coagulable lymph, induration or softening of the surrounding tissues, and of any appreciable modification of function of the affected organ, more especially of such a nature as accompanies this pathological state, when it terminates in suppuration to the extent which the purulent deposits frequently occupy.

The opinion that the purulent deposits are the result of suppurative inflammation, induced in remote organs by the pus circulating in the blood, appears to me to rest also on the most conclusive evidence. In many cases, we meet with all the physical characters of inflammation; and, besides, the tissues in contact with the pus are softened, ulcerated, or covered with layers of coagulable lymph. There are sometimes pain, heat, and swelling in the joints in which the pus is found after death, and also in the situation of abscesses formed in the intermuscular and subcutaneous cellular tissue; and well-marked symptoms of pleurisy precede the formation of similar collections of pus in the cavity of the chest. Indeed we very often find coagulable lymph on the pleura, where it covers the purulent deposit in the lungs. I have stated that the inflammation which gives rise to the present form of purulent deposition is said by some pathologists to have its seat in the minute veins; that in fact these deposits not only have their remote origin in phlebitis, but that they are likewise the immediate consequence of the same morbid state. I have certainly not been able to satisfy myself of the accuracy of this opinion in cases of purulent deposits in the lungs or liver; and that it applies to those which form in the serous and synovial membranes cannot be admitted, unless phlebitis and inflammation are considered as synonymous terms." (Fasc. 8.)

The length of this foregoing extract precludes our quoting the concluding remarks upon this interesting quotation. They intimate that the theory which attributes the purulent deposits to the circulation of pus with the blood is confirmed by the symptoms which accompany their formation, and which indicate a sudden and general disturbance of all the functions of the economy: the resemblance which they bear to the effects of the injection of pus and putrid fluids into the veins of the inferior animals, is another corroborative circumstance. The organs most subject to these accidents are the lungs and the liver; but recent researches do not authorize the opinion, once entertained, that they occur in the liver more frequently after injuries of the head than of the extremities. "Of all the organs of the body, the kidneys are least frequently the seat of purulent deposits."

We are by no means sure that Andral's statement respecting the presence of pus in the coagula of the heart, without the existence of inflammation in any part of the body, can be disposed of so readily as our author is inclined to think. But, allowing this statement to be incorrect, and that there is always a coexistent suppurative inflammation in some part, and that it is seated in the veins of that part, and moreover that pus enters the circulation, we do not see that the two methods above described are the only ones by which purulent deposits are effected, even if they be in any case adopted. With regard to those instances in which the deposits *are unaccompanied by inflammation of the tissue,* is it more probable that the pus was derived from a circumscribed phlebitis, through the agency of a mechanical mixture with the blood, and a subsequent separation, (in a quantity often disproportionate to that of its alleged source?)—or that the formation is attributable to a vital change in the constitution of the blood, occasioned by the pus introduced into it, (as in the analogous cases of injection into the veins of inferior animals,) which altered constitution becomes manifest by a secretion of a matter, similar to that with which it was infected, in tissues favourable to the process? When, in consequence of a morbid secretion injected into the veins of an animal, a secretion is formed in that animal with properties precisely similar to, and in far greater quantity than that which was introduced, shall we say that the morbid product is that which came from without; that it circulated with the blood, and was then separated from it, retaining all the while its identity? or shall we not rather infer that the matter injected occasioned a vital change in the composition of the blood, which in all probability corresponded with the state of the blood in the animal from which the infecting substance was obtained, and the result of which was an elaboration of a similar matter? To us there appears a striking analogy between the two cases. As far as the symptoms in each are concerned, the analogy is one of our author's own adducing; and we cannot help thinking that the symptoms which he himself enumerates, viz. "great prostration of strength, confusion and stupor of the intellectual faculties, a dingy yellow colour of the skin, fœtor of the breath, meteorism, and petechiæ," are more likely to be the effects of such a change as we have hinted at, than of a mere admixture of pus with the blood. As an additional support to our suggestion, we may allude to the fact that purulent formations often take place after the removal of the part in which suppuration had been going on for some time. If the deposits were identical with the matter derived from the seat of the suppuration, we could scarcely expect them to occur precisely when the source is cut off. We think that they may be more rationally accounted for, as resulting from a sort of vicarious secretion, analogous to the anomalous deposits of bile or urinary salts, when the liver or the kidneys have become incapable of their function. Perhaps, Dr. Carswell would urge, in reply to this suggestion, that he has proved inflammation to be a necessary antecedent to purulent formations, and consequently that, if pus is formed where no inflammation exists, it must have been derived from some other part where inflammation *did* exist. But we are not yet prepared to admit that inflammation *is* essential; and, although the experiments of Gendrin, and a vast number of pathological facts, sufficiently prove that inflammation was in those cases an exciting cause of the suppurative process, it does not follow that, in other cases, the process might not own some other excitant. Indeed, the very deposits of which we have been treating afford, in our opinion, and for the reasons which we have stated, strong presumptive evidence that other causes than inflammation have been in action.

As to the opinion that, in those cases in which the anormal deposits *are* attended with unequivocal marks of inflammation, the cause of the inflammation was pus in the capillaries, acting as a foreign body; while we do not undertake to deny the possibility of such an occurrence, it seems worthy of consideration whether the inflammation may not be the consequence of a change in the blood, occasioned by the purulent matter conveyed into it.

But it is time to conclude. It has been both our duty and a gratification to us, in our critical capacity, to express the strongest approbation of Dr. Carswell's researches. To all who feel an interest in the study of their profession, these faithful Illustrations present objects of instructive contemplation; whilst to those who do not possess the advantage of residing near a large hospital, or whose opportunities of examining bodies after death are rare, such a conspectus of morbid anatomy, so vividly illustrated, is literally invaluable. The gratitude not only of speculative pathologists but of practitioners of every degree, is indeed due to Dr. Carswell for labours, of which the direct tendency is to improve the knowledge of the nature and treatment of a large class of maladies; and we may justly add, that his splendid work, the result of many years of laborious observation, reflects honour upon British pathology.

ART. VI.

The American Cyclopædia of Practical Medicine and Surgery; a Digest of Medical Literature. Edited by ISAAC HAYS, M.D. Parts I. to VII.—*Philadelphia:* July 1833 to April 1835. 8vo. Price of each Part, fifty cents, or half a dollar.

THE work before us is one of those collections which form a distinguishing feature of the activity and energy characteristic of the present era. The want of comprehensive digests of our knowledge seems to have been simultaneously felt in several of the more enlightened states of the civilized world, and accordingly Encyclopædias and Dictionaries, of various extent and merit, have been multiplied of late years in almost every country which possesses any pretensions to literary or scientific acquirements. In that department which comes more immediately within our own province, many excellent works of this description have appeared within a very short period of time; some notice of which will be found in another part of the Number.

The American Cyclopædia possesses, in common with some of the foreign works alluded to, with the Cyclopædia of Practical Medicine, lately completed, and with that of Anatomy and Physiology, now in course of publication in this country, the advantages of being written by several individuals. This plan, though necessarily liable to some objections,—such as a want of unity of thought and composition, and in some instances an undue relation in the comparative length to which the several essays are extended,—permits the assigning of the subjects treated of to those authors who have made them respectively the objects of especial study. Medicine (although the manner in which Dr. Copland's great undertaking is executed would seem almost to afford an exception to the remark,) is too extensive a science to be fully entered into in all its branches by one individual, however gifted; and here therefore, as elsewhere, the advantages resulting from the division of labour become too manifest to require pointing out. It is upon this plan, then, of the division of labour amongst several contributors, and the allotting to each that department and those subjects with which he is, from previous study, locality, or acquired advantages, most conversant, that the editor of the American Cyclopædia has proceeded in the execution of his arduous task. The work embraces within its range the whole extent of medical science,—anatomy and physiology; pathology, surgical and medical; obstetrics; therapeutics; the *materia medendi*, and pharmacy, with so much of the kindred sciences of natural history and chemistry as are necessarily connected with them; forensic medicine, and a tolerably full, though by no means complete, exposition of the scientific and technical terms used by medical authors.

The anatomical articles hitherto published are chiefly from the pen of Dr. Geddings, professor of anatomy and physiology in the University of Maryland, and evince much research and judgment in their compilation. We select the observations upon the Adipose Tissue, as affording a good insight into the method pursued by this author, and a favorable example of the manner in which he discusses the subjects allotted to him.

After distinguishing this elementary texture into the general adipose tissue, or that which occupies the superficies of the body and the surface and interstices of the organs, and the medullary, or that which is disposed within the cavities of the bones, he proceeds to consider the general adipose tissue, in relation to its quantity and proportion to the other parts of the animal economy; its distribution on the superficies, or in the interior; its progressive development; the causes influencing its increase or diminution, at different periods of life, and under varying circumstances of health or disease; and its variations in form and density, whether in different parts of the body, or at different periods of growth, maturity, and decay. The organization of the adipose tissue is then entered into at some length, and the opinions of various authors upon this curious subject brought forward and discussed. The form and size of its granulations, and the question of its constituting a distinct tissue, are then considered; and these are followed by a short notice of Chevreul's researches into its proximate elementary composition, and of M. Raspail's objections to the views of this experimenter. A brief allusion to the opinions entertained with respect to the mode of its formation, and a summary of the probable uses which the adipose tissue is intended to perform in the animal economy, conclude this part of the subject. The medullary adipose tissue is then in like manner considered; and, in a second article, the pathological anatomy, under the heads of Preternatural Development, or Hypertrophy, Preternatural Deficiency, or Atrophy, and Alterations of Texture.

The organization of the adipose tissue is an enquiry of much interest, and the question of its constituting a formation distinct from the general reticular or cellular texture, one which, notwithstanding the researches of William Hunter, Beclard, &c., on the one side, and Haller, Bichat, Cloquet, Raspail, &c., on the other, cannot even yet be considered as determined. "The adipose tissue," observes Dr. Geddings, "is of a whitish yellow colour, and, though variable in its texture in different situations, it is nevertheless everywhere composed of small, rounded, oval, or flattened masses, enveloped by the common cellular tissue. These masses, when submitted to a more minute state of division, are found to be composed of a number of small lobules, and these, in their turn, of an infinity of minute granules or particles, closely clustered together, which have been compared to the racimose arrangement of a bunch of grapes; the blood-vessels which lead to them forming a kind of pedicle, upon which the grains of fat are ingrafted." The adipose granules, according to the researches of some observers, would seem to be, as Dr. Geddings has described them, of an oval configuration: according to others, they are nearly spherical. M. Raspail states that these granulations exhibit various forms and dimensions, not only in different animals, but also in the same animal at different ages. In the ox and sheep they present distinct facets, so as to resemble the most regular crystals, reflecting the light in a manner similar to crystals of quartz. Those of the hog are rounded, oblong, turbinated, or kidney-shaped; while in insects they are of a turbinated form, in consequence of the large hilum with which they are furnished at the base.* The crystalline configuration of the adipose granules has been observed by Dr. Geddings himself in the ox and sheep; but he is inclined to regard it, with Weber, merely as an accidental condition resulting from their solidification after death.

Referring to the microscopical observations of M. Raspail upon the internal structure of the adipose tissue, Dr. Gedding subsequently observes,

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* Raspail, Nouveau Systême de Chimie Organique. Dr. Henderson's Translation, p. 235.

> "That each mass of solid adipose substance is surrounded by a strong membranous covering, or vesicle, in which no opening is perceptible. This mass is composed of an aggregate of smaller masses, likewise included within similar vesicles, of a thinner and more delicate character; and these secondary masses may be divided and subdivided until they are reduced to the primitive adipose granules, which are themselves contained in small delicate membranous vesicles, so attenuated as to be imperceptible to the natural eye, but which become manifest when they are prepared by immersion in boiling alcohol, and are in this state examined with the microscope. The adipose tissue, therefore, according to this view, seems to be composed of an external vesicle, from the inner surface of which others are formed of smaller size, and these latter are divided and subdivided, until they are reduced to those minute divisions which, being inflated with the adipose materials, form the primitive granules."

The close analogy of this structure with that of the cellular tissue of vegetables, must occur to the most superficial observer; the difference being chiefly, as is elsewhere remarked, in the character of the materials which are contained within the cells. But we cannot thence conclude, with M. Raspail and Dr. Geddings, that there is therefore no foundation for the opinions of William Hunter and Beclard respecting the existence of the adipose tissue as distinct from the cellular. Dr. Hunter's reasons in favour of this view, published in the second volume of the Medical Observations and Inquiries, have never been satisfactorily confuted; and Dr. Geddings scarcely does justice either to William Hunter or Beclard, in the imperfect summary which he gives of their state ments.

When the cellular tissue is infiltrated with air, as in emphysema, —with serous fluid, as in anasarca,—with blood or pus, as in other states of disease,—or even artificially with oleaginous and other fluids,—the effused or introduced fluids readily pass from one part of this texture to another. This is especially the case with the serous infiltrations in anasarca, which, as is well known, spread throughout the body with extreme facility, always tending towards the parts in a depending position, as the scrotum and lower extremities, and readily yielding to the pressure of the finger. These phenomena, together with the evacuation of the loaded cellular tissue, by puncture or scarification, can scarcely be explained without supposing a free communication to exist between the cells or meshes of this texture. But, in the case of the natural adipose secretion, or of its excessive development, as in some morbid states, we do not find the oil or adeps passing freely throughout the body; neither do we observe it occupying in an especial manner the most depending parts, while those which are the most readily infiltrated by air, serum, or other fluids, as the eyelids and scrotum, are never, either in health or disease, the seat of an increase of the fatty secretions. We observe that Dr. Craigie, in Part I. of the Cyclopædia of Anatomy and Physiology, article *Adipose Tissue,* espouses the same views, and offers some additional reasons for considering this tissue as distinct from the cellular.

There are, it is true, good reasons for believing that not only do the increase and growth of the various modifications of cellular texture in vegetables result from the progressive development of what may be termed primary generating cells, but that also the vascular textures are in like manner derived from a similar origin; a vessel being in fact nothing more than an elongated cell open at both ends, or a number of cells arranged in a linear series, and communicating with each other at their point of contact so as to form a continuous tube. But similarity of origin proves neither identity of structure nor of function, and however strong may be the analogies between the general cellular texture of plants and the adipose tissue of animals, we cannot therefore regard the close vesicular texture of the latter as identical with or capable of performing the functions of the free, open, reticulated structure which constitutes the cellular tissue of man and animals.

The principal article connected with physiology contained in the parts which have been received by us is one on Absorption, by Dr. Jackson. There are some points connected with this subject upon which we were curious to ascertain the opinions held by our American brethren, and we expected that this article would convey the expression of their opinions with some authority. We regret however that the observations of Dr. Jackson are not such as we can regard with confidence. With respect to cutaneous absorption, one of the points upon which we were desirous of information, the view taken is in the affirmative, but the remarks upon this subject would have had more weight had they been extended and accompanied by a detail of the arguments and experiments by which the existence of the absorbing power in the true skin is proved. The observations upon alimentary absorption, that is, upon absorption as manifested in the gastro-intestinal mucous membrane, are equally hurried and unsatisfactory, affording but a very superficial view of this most important part of physiology; and here, as in the succeeding section upon absorption in the cellular tissue, many of the effects attributable to impressions upon the extremities of the nervous fibrils, as proved by the researches of Dr. Addison and Mr. Morgan, appear to be confounded with those arising from the actual absorption of deleterious agents. The second part of the paper, on the mechanism of absorption, is much more to the purpose, but we are inclined to think that some of the opinions advanced will startle by their novelty, if not by their depth, the cultivators of physical science on this side of the Atlantic. For instance, "Metaphysicians, by a *mental abstraction,* have made solidity and impenetrability properties of matter. This is, however, mere scholastic subtlety. So far as matter can be brought to our positive knowledge by the senses, porosity and penetrability are its constant properties. We have what may be regarded as almost the demonstration of the fact in the experiments of Graham and Dalton, but more especially in the very ingenious experiments of our intelligent collaborator, Dr. J. K. Mitchell, of this city, (Philadelphia), exhibiting the penetrativeness of the gases; and in the experiments of Dutrochet on the endosmose and exosmose of fluids through animal and vegetable tissues." "It may be inferred from these experiments," continues our author, "that whatever may be the properties of matter in its ultimate atoms, of which we know nothing, that *bodies*, whether inorganic or organic, are porous and penetrable by some other substances or matters." We cannot pause to argue with Dr. Jackson respecting the essential difference between bodies or material aggregates, and the molecules of matter of which these bodies consist, nor attempt to point out the many errors in the preceding passage, but we must be permitted to remark that such inaccuracies of expression as the following ought not to have escaped the revising pen of the editor. "Magendie instituted a series of experiments, the results of which led him not only to assert the existence of venous absorption, but he denied the same function to the lymphatics."

There is a very elaborate article on the Diseases of the Aorta, drawn up by Dr. Geddings, which requires more than a mere passing notice. Leaving the strictly anatomical details for consideration under the subject of arteries, he proceeds to describe the variations of this vessel from the healthy state under the heads of, 1. Inflammation of the Aorta. 2. Construction and Obliteration of the Aorta. 3. Dilatation. 4. Aneurism. 5. Wounds. 6. Ligature; and 7. Rupture of the Aorta. In the first section is a good description of the results of the inflammatory process as observed after death in the coats of the artery. The red, brown, or purplish stains, which are of not unfrequent occurrence in the lining membrane of the aorta and other large arteries, when unattended by other morbid changes, Dr. Geddings regards, with Laennec, Hodgson, Hope, and others, as arising from infiltration of the tissues after death. These appearances were at one time very generally looked upon as of inflammatory origin, and it may be doubted whether some recent pathological writers have not erred on the opposite side in ascribing too little importance to them as morbid phenomena. Thus, in an epidemic malady which prevailed amongst horses in the year 1825, reported by M. Andral, this peculiar redness was found to occur in the greater number of cases, and that even when the examination was made only half an hour after death, a period of time which seems almost too short to allow of the explanation contended for by these authors. The same remark applies to the redness of the lining membrane of the vascular system occasionally found in those who die of *Purpura hemorrhagica,* as the laxity of tissue and broken-down state of the blood are a part of the disease, and the effects of these changes upon any part of the animal fabric, although not necessarily to be regarded as indicative of a previous inflammatory state, are scarcely to be considered as an alteration depending merely upon the loss of vitality, more especially as they are found to occur in some instances during the life of the individual. The principal morbid changes in the aorta arising from inflammation, recognized by Dr. Geddings, are redness of its lining membrane, (which he characterizes as "less intense, less diffused, and not so abrupt in its termination in the neighbouring parts," as the redness proceeding from infiltration after death,) softening, induration, ulceration, effusion of plastic lymph, suppuration, atheromatous secretions, tumours within the coats, cartilaginous and osseous depositions, and lastly cancerous or encephaloid degenerations.

The following is the account given of the softening of the tissues.

> "Softening of the coats of the artery is an early effect of inflammation. The lining membrane becomes soft and spongy, and loses its natural polished appearance. Portal[*] describes the case of a youth, who died in consequence of the repulsion of an exanthematous eruption, in whose body he found the internal membrane of the aorta red, tumid, and preternaturally soft. It can generally be detached from the fibrous tunic with great facility; and in some instances presents a slight villous appearance, similar to that exhibited by inflamed serous membranes. The fibrous coat becomes remarkably fragile, and is partially or completely divested of its elasticity. Softening likewise takes place to a limited extent in the cellular coat, which at the same time loses its natural pliability, but still remains somewhat resistent. It is, nevertheless, more yielding in this state than in its healthy condition; and this cause co-operating with the diminished cohesiveness of the other tunics, is doubtless instrumental in giving rise to the preternatural dilatations of the aorta which are so often observed. There is likewise great fragility of the coats of the aorta, when they are affected with chronic inflammation. Although more dense than in their natural state, they are so inordinately brittle, especially the middle coat, as to be easily lacerated."

We have been induced to make the foregoing extract, because it has been denied by Laennec and other competent observers, that softening of the coats of the arteries is really a characteristic mark of previous inflammatory action. Laennec states that the formation of a pseudo-membranous layer of plastic lymph, more or less adherent to the internal surface of the heart and blood-vessels, is the most incontestable sign of inflammation of that membrane, and with ulceration the only certain one:[†] and he even doubts whether redness of the lining membrane of the arteries, though accompanied with swelling, thickening, puffiness, and an increased development of small vessels in the fibrous or middle coat, are to be received as proofs of inflammation in a subject considerably infiltrated, and the tissues of which are very humid.* Dr. Hope, quoting these passages,† refers to a case which he had recently met with, precisely such as Laennec describes, and which he, in conjunction with two other eminent medical men, had been inclined to consider as being inflammatory, until subsequent inspection proved the reverse. Notwithstanding these high authorities, however, we cannot hesitate to regard the changes described by Dr. Geddings as the result and evidence of a previously existing inflammatory state in the lining membrane of the larger blood-vessels, although we are quite willing to admit that such changes are not of very frequent occurrence. The fragility of the coats of the aorta described towards the conclusion of the passage quoted, as an effect of chronic inflammation, can scarcely be considered as a part of the softening process.

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[*] Anat. Médicale, III. 127.

[†] Traité de l'Auscultation Médiat. Ed. 2. Vol. II. p. 607.

It is to be regretted that the enlightened author of this paper should have suffered himself to be trammelled by the usage of an exclusive and erroneous pathology, and thus have classed, under this head of Inflammation, such diverse morbid products as tumours, cartilaginous and osseous depositions, and cancerous degenerations. The reason adduced for this proceeding, that, in the present state of our pathological knowledge, the question of the origin of such variations from the healthy state cannot be decided, and therefore that it is better to group them all under one head, than to make a multiplicity of divisions,—is anything but conclusive. In the present imperfect state of our knowledge, there must always remain a vast number of effects which we are unable to refer to their causes; but, although we may not have it in our power to point out the true origin of any specific deviation from the healthy condition, the deficiency is surely no reason for adopting an acknowledged error. It is time that this method of glossing over ignorance with a name should be abandoned, and that our systems, though perhaps of necessity imperfect in their construction, should no longer be avowedly false. The morbid changes alluded to are undoubtedly to be ascribed to an altered state of the nutrition of the organs in which they are found to occur, and may be simply classed as such until the progress of our knowledge shall enable us to give a more satisfactory account of them.

The symptoms of inflamed aorta are very obscure, and the diagnosis of this affection consequently uncertain. Dr. Geddings quotes the summary given by Frank in his *Praxeos Medicæ Universæ Præcepta;* but it contains nothing satisfactory upon the subject. There is no one symptom or assemblage of symptoms which can be fixed on as characteristic, and in every instance the physician must be indebted rather to his own sagacity and tact for the discovery of this obscure morbid condition, than to any prescribed rules of diagnosis. The same observations necessarily apply to the treatment of such cases; though, when inflammation is suspected to exist in the aorta or larger blood-vessels, it is to be treated upon general principles, modified in their application according to the circumstances of the individual case.

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* Ibid.

† Cyclopædia of Practical Medicine. Article, *Arteritis;* Vol. I. p. 144.

The succeeding section, upon Constriction of the Aorta, contains much curious information, and is well worthy of an attentive perusal.

The subjects of Dilatation and Aneurism are treated at considerable length in the third and fourth sections. Dilatation of the Aorta is thus defined:

> "By this term is meant a general dilatation of all the coats of the aorta, occupying more or less the extent of that vessel. It is distinguished from aneurismal dilatation, by the latter being generally, though not always, confined to a limited extent of the aorta; by the presence in aneurism of a tumour more or less manifest, either occupying the entire circumference of the vessel or confined to a portion of its walls; and, finally, by the absence, in simple dilatation, of those laminæ of coagulated blood and fibrinous depositions, which always form within an aneurism, and become intimately connected with the inner surface of the sac."

The distinction here attempted to be established between simple dilatation and true aneurism is, in many instances, more of a nominal character than one founded upon correct observation. The extent of the change does not, as Dr. Geddings has himself remarked, in all instances afford a sufficient criterion; and fibrinous depositions within the dilated vessel, especially in cases when its lining membrane is not in a healthy state, have been found when the dilatation was simple, and not sacculated or aneurismal. Examples of this kind, related by Messrs. Bertin and Bouillaud, and by Mr. Guthrie, are indeed referred to by Dr. Geddings; and, with respect to the second mark of distinction, it is subsequently observed, that "the tunics are often distended only in one direction." We would not, however, be understood to follow Scarpa in denying the existence of what has been termed true aneurism, as distinct from simple dilatation of the artery, but merely to state that the line of demarcation between these morbid conditions is not always distinctly to be made out, and certainly not with that precision which some pathologists contend for.

Under the head of Aneurism of the Aorta, we find treated of, in succession, the anatomical characters of true aneurism, of false aneurism, and of mixed aneurism, the influence exercised by aneurism of the aorta upon the adjacent parts; the causes, symptoms, and diagnosis; and, lastly, the spontaneous cure and medical treatment. The observations upon each of these subjects are well worthy of attentive perusal, and especially those on the influence upon adjacent parts, and on the symptoms and diagnosis. The obscurity in which cases of aneurism of the aorta are not unfrequently involved, and in particular those instances where the thoracic portion of this vessel is the seat of the dilatation, is a source of disappointment and regret to the intelligent and well-informed practitioner: of disappointment, because he will, if in extensive practice, recollect but too many instances where his efforts have been foiled from being directed against symptoms presumed to arise from a cause more within the reach and resources of art; and of regret, because he will know that, although a cure could not have been effected, much suffering might have been spared in the unavailing employment of active and painful remedies.

Upon this subject, however, we cannot now enter, but must be content with referring to Dr. Geddings's paper, to Dr. Hope's Treatise on Diseases of the Heart, and especially to the article *Aneurism of the Aorta*, in the Cyclopædia of Practical Medicine, by the same writer, in which the physical signs of this lesion are set forth with as much precision as the subject at present admits of.

The following remarks upon the treatment of aneurism of the aorta, although somewhat at variance with received opinions, are deserving of attentive consideration. After quoting the mode of treatment by free depletion, recommended by Dr. Hope in the treatise before referred to, Dr. Geddings proceeds:

> "While we are willing that such a course should be adopted as a general rule, especially in those whose constitutional powers have not been seriously impaired, we feel assured that, in a large proportion of cases, blood must be more sparingly drawn, if we would not jeopard the life of the patient. There is, indeed, abundance of evidence to prove that too much depletion, and too severe a regimen, will often thwart the fulfilment of the very objects we have in view. The bad effects may, as previously remarked, either consist in the impairment of the plastic or cohesive powers of the blood, by depriving it of its fibrine; in the development of that peculiar preternatural throbbing of the vascular system, which is so wont to supervene upon copious abstractions of blood; and, finally, an enfeebling of the cohesiveness of the coats of the artery, rendering them more friable, and consequently more prone to rupture under the distending influence of the blood. The truth of the last inference has been fully confirmed by the extensive experience of Dupuytren, who has repeatedly remarked, that internal aneurisms, treated by Valsalva's method, are apt to increase more rapidly in size, and finally rupture; consequences which he explains upon the supposition that the depletion weakens the coats of the arteries more than it does the action of the heart."

Dr. Copland, in his Dictionary of Practical Medicine, gives the same opinion as to the effects of large and frequently repeated abstractions of blood. "I believe," says he, "that there is no position in pathology more firmly established, since it was insisted on by John Hunter, than that whatever greatly lowers the vital energies will impede the formation of coagulable lymph and fibrinous coagula, especially in diseased vessels; and that increased rapidity of the circulation, throbbing of the arteries, abstraction of the fibrine and red globules of the blood, by repeated or large depletions, and the absorption of serous, watery, or unassimilated materials into the current of the circulation, in order to supply the place of the portion of the blood abstracted, will, with other effects, inevitably tend to prevent those changes from taking place which we wish to bring about." In these observations we fully concur; and we feel assured, from some experience in these cases, that, after the plethoric condition of the constitution has been subdued, an occasional small bloodletting, with moderate diet, perfect quietude both of body and mind, and the employment of sedatives, will form the most efficient and satisfactory mode of treatment.

It will be fresh in the recollection of many of our readers, that, in the winter of the year 1832, a young girl died suddenly at the Hôtel Dieu, Paris, while undergoing the removal of a tumour from the neck, by the late Baron Dupuytren, and that the fatal event was attributed to the admission of air into the vein. A similar accident had previously occurred, in the year 1318, to M. Beauchène, in removing a tumour from the neck of a young man, at the Hôpital St. Antoine. Since then it has been observed upon other occasions in the practice of several distinguished surgeons. As recent examples, we extract from the article *Air* the following cases, which occurred to Dr. Warren, by whom they are related.

A man, aged sixty, was admitted into the Massachusetts General Hospital, on the 16th October, 1830, with an ulcerated cancerous affection of the left side of the face and neck, involving the parotid, submaxillary and sublingual glands, and all the textures excepting the bone. The patient being desirous of having an operation performed for its removal, it was thought right, in the first instance, to secure the carotid artery.

"An incision for this purpose was begun opposite the thyroid cartilage, and carried two inches downwards. The platysma muscle was divided; the edge of the mastoid exposed, and dissected. Thus far only a few drops of blood were discharged. The face of the sheath of the great vessels was a little uncovered, when a small effusion of venous blood appeared under the knife, and checked the operation. At that instant a very distinct sound was heard, like the passage of air through water. A few bubbles were seen in the venous blood, the flow of which was immediately arrested by applying a finger on the part. The patient exclaimed 'I am faint!' On regarding his countenance, it was not pale, but livid, almost black, and the muscles agitated by a convulsive motion. The respiration became deep, laboured, and stertorous, like that of apoplexy. The pulse being examined at the wrist, was found distinct, but very slow. The wound not bleeding, and very little blood having been lost, the temporal artery was opened, and the blood flowed from it with great freedom. As it flowed, the respiration became more frequent and less laborious, the pulse at the wrist more natural. The leaden colour in the cheeks assumed a reddish tinge, and the alarming character of the symptoms was evidently diminished. About twenty minutes elapsed during these changes. At the end of half an hour it was thought safe to remove the patient to his bed, where he lay in a state of insensibility for two hours; at the expiration of which he awaked as from sleep, *still* breathing like an apoplectic. The night was passed without any accident; and on the following morning he was as well as usual, with the exception of a moderate soreness over the thorax, and a headach."

The operation was performed seven days afterwards, without tying the carotid artery; and the man recovered without experiencing any bad symptom.

A married woman, aged thirty-three, had a hard moveable tumour of the right breast, involving the whole gland; the glands in the axilla being also diseased. An operation was performed on the 24th December, 1831. The patient having been placed in a proper position, and the breast partially dissected out, the axillary glands were then cautiously detached from the great axillary vessels to which they adhered. The separation was nearly effected, when a vein at the outer part of the axilla was divided, and a small quantity of venous blood discharged.

"Scarcely was this done, when the patient struggled, her complexion changed to a livid colour, and at the same instant the bubbling or clucking noise, which had not been noticed before, was heard, though indistinctly; but the place from which it issued was not visible, the surrounding skin and fat lying over it. On this, the axilla was immediately compressed. The patient became insensible, breathing as in apoplexy. The tumour was at once separated. The posture of the patient was changed, and she was supported by those around. Some brandy was poured down the throat, and ammonia introduced into the nostrils. The pulse, however, became less distinct every instant. Cloths dipped in hot water were thrown over the extremities. Strong frictions were applied to the chest, and to all parts of the body. Considerable quantities of brandy were again poured down the throat. At this moment, the livid colour of the cheeks gave place to a suffusion of vermilion red; and no glow in the cheek of a youthful beauty ever gave one so much pleasure as that flush. But the flush soon passed off: the lividness reappeared, the respiration became more feeble, pulse at the wrist scarcely perceptible; and, notwithstanding the redoubled applications of external heat and moisture, the extremities and the whole body cooled rapidly, and presently the respiration ceased."

The larynx was opened as a last effort, and the lungs regularly inflated for about twenty minutes, but without effect. No inspection of the body was obtained.

We regret being compelled to pass over an excellent article upon the anatomy, physiology, and pathology of the Anus, by Dr. Reynell Coates; and a most elaborate account of Antimony, its

Chemical History, Pharmaceutical Preparations, Therapeutical Applications, and Toxicology, by Dr. Franklin Bache. Some other medicinal agents from the mineral kingdom are also illustrated by Dr. Bache; while those from the vegetable kingdom are written by Dr. R. E. Griffith and Dr. Wood. These last are in general carefully written, and present some features of considerable interest: they are especially worthy of attention, as giving an account of many native remedies employed in the practice of the American physicians.

The articles, generally, partake more of the character of compilations from other authors, than of original essays; but many of them evince much research, and considerable judgment in the selection of the materials from which they have been compiled. Upon the whole, the work is highly creditable to the industry, professional acquirements, and judgment of the physicians engaged in it, and promises to be of considerable utility as a digest of medical literature. There is one great defect, however, existing in the arrangements for publication, which we feel ourselves called upon to notice: we allude to the slowness of its progress. The first Part bears the date of July 1833, and contains the following notice on the cover: "The work will be published in parts, averaging 112 pages each. It is expected that it will be completed in forty parts, making eight large volumes." The seventh part, which only proceeds as far as Apoplexy, appeared in April 1835. At this rate of proceeding, the work, at the same time that it will much exceed its contemplated limits, can scarcely be completed in less than thirty years, and may possibly require a much longer period.

The mode in which it is got up, although not in the best style of the American press, is very creditable to the publishers. It is, indeed, gratifying to observe the degree of perfection to which this wonderful people have already arrived in nearly all the departments of the arts; and it is particularly delightful to us to reflect that the greatest and most divine of all arts, the art of healing, flourishes throughout the vast extent of that great country, with a degree of vigour, soundness, and activity, which reflects infinite credit on the members of the profession generally, and adds fresh glories to the common language and common mother-land of all who think and write in the English tongue.

PART SECOND.

Bibliographical Notices.

Art. I.—*Pathological Researches on Phthisis.* By E. Ch. Louis, m.d., Physician to the Hospital of La Pitié, &c. *Translated from the French, with Introduction, Notes, Additions, and an Essay on Treatment*, by Charles Cowan, m.d., &c.—*London*, 1835. 8vo. pp. li. 388.

The original work, of which we have here a translation, having been ten years before the tribunal of the medical public, and that tribunal having long returned an almost unanimous verdict in its favour, it is altogether unnecessary for us to enter into any details respecting either the character of the book itself, or the subject of which it treats. We cannot, however, omit any fair opportunity of bearing our individual testimony to the very extraordinary merits, both of the work and of its author. Regarded as a record of the *pathology* of phthisis, when formally developed, it is not only the best and completest that exists, but it is the very model of what a work on such a subject should be. The facts are sufficiently numerous, well selected, well arranged, detailed with great clearness, and all bearing the sovereign impress of truth; and not only of truth in the main, but of pure, unalloyed, exclusive truth. It is the crowning glory of M. Louis,—and this is a glory which would illustrate his name in any country, but which renders it still more illustrious in his own at the present time, where imperfect views and opinions are, by the lively imagination of the propounders, so readily converted into facts, from which the most momentous conclusions are, with equal inconsequence and rapidity, deduced:—it is, we say, the crowning and distinguishing glory of M. Louis, that he follows the only true path in physic, the Baconian path of rigid observation; departing no further from it than seems warranted by the progress he has made, and the knowledge to which this has led him. The consequence has been such as all who are acquainted with this method of philosophizing might expect, the production of the volume before us, which, whatever revolutions medicine as a science may undergo, must for ever remain a record of most important facts, available alike to practical men and theorists, and destined to perpetuate his name with the small number who have really added to the enduring materials of medical science.

In speaking thus of the present work of M. Louis, we must, however, be understood as not extending our commendations beyond the qualifications as given above. It is only as a picture of the full-formed disease,—it is only as a specimen of pure pathology and semeiology,—it is only, in short, as an elaborate and complete natural history of phthisis, from its formal development to its final close, that we commend the treatise before us. For the exposition of the remote causes of phthisis, —for the discrimination of the earliest indications of its invasion,—for the detection (if we may be permitted the expression) of the microscopic ova of the larva which, when developed, is destined, an envious kanker, to destroy the fair rosebud in which it is deposited,—we look in vain to the pages of our author; and, in the work as originally published, the all-important subject of treatment was entirely omitted. With these defects, we cannot, of course, recommend the treatise of M. Louis as a complete monograph on the subject of consumption; but, such as it is, and to the extent to which it goes, we do most earnestly, as we can most conscientiously, recommend it, as a production of first-rate excellence, and indispensable to every one who is desirous—and who that practises physic is not desirous?—of thoroughly understanding the nature, and habitudes, and indications of the most common and most fatal of diseases.

We consider the members of the profession in this country under great obligations to Dr. Cowan for the present which he has made to them of M. Louis's work in an English dress. If it is extraordinary that the translation has been delayed until the present time, the eagerness with which it is now hailed by the profession is a sufficient proof of the intrinsic value of the original, and that it is, as we have already said, above the mere accidents of time; and we are happy to think that the work has fortunately fallen into the hands of one well qualified, both by his medical knowledge and his literary acquirements, to do it justice. It is evident, from the numerous and important additions which Dr. Cowan has made to the original, as well as from the general character of his translation, and the clear and philosophical views announced in his excellent preface, that Dr. Cowan was well qualified to undertake the important task which he has here executed, and that the laborious duty of translation has been dignified in his hands. In future years, (for we presume that Dr. Cowan is still young,) no doubt the profession will have to thank him for something exclusively his own. In the mean time we think he has shewn much more, both of judgment and taste, in enabling all his countrymen to render themselves familiar with the riches of one of the greatest of their foreign contemporaries, than if he had sought to acquire a precocious and fleeting notoriety, by any immature original speculations.

We have read considerable portions of Dr. Cowan's version, and have compared it with the original; and, as we can speak confidently and conscientiously both of its fidelity as a translation and of its general correctness as a composition in English, we recommend it in the strongest terms to all of our readers who are unacquainted with the original treatise. To be sure, Dr. Cowan's translation is by no means free from faults, and we noted, as we run over its pages, several expressions not very accurate and not very English: still, on the whole, we are much pleased with it, and are bound to say of it, what we fear cannot be predicated of all medical translations, that it is truly "done into English," according to the good honest phrase of the old time. As little matters of a general and intentional kind to which we object in Dr. Cowan's version, we may name the employment, in the English, of the term *observation* for the same word in the original: *case*, we humbly conceive, ought to have been substituted for the French word, as the word *observation* is otherwise appropriated in medical language. We make the same objection to the use of the word *sectio,* uniformly employed by Dr. Cowan as synonymous with what is commonly, though barbarously, termed in English medical writings, *post-mortem examination,* and which stands for the much more proper expression *ouverture du cadavre,* uniformly employed in the original. Objecting as we do to Dr. Cowan's term, we must admit that, though less definite, and therefore, philosophically speaking, less proper than the one quoted above as the more common one in English medical writings, it is decidedly less offensive to our eyes and ears than that intolerable barbarism; and we verily think the man who shall invent and successfully introduce a word, term, or phrase, equally significative with that un-English, un-Latin adjective or substantive, (which shall we call it?)[*] *post-mortem,* will deserve the thanks of all succeeding medical authors and medical reviewers.

Another general peculiarity in Dr. Cowan's translation is the niggardly use of the definite article *the* in the history of the cases, and of the cadaveric examinations; a slight fault, indeed, but which forces itself on the reader's notice, from the frequency of its occurrence: "adhered to costal pleura," "bile in gall-bladder," "membrane of trachea," and so on. Probably, Dr. Cowan adopted this mode of expression for the sake of brevity; but the space and time are purchased at too dear a price. An occasional mistake, also, evidently arising from heedlessness and hurry, met our eye here and there; but they are in very small number, and are only conspicuous because of the general goodness of the context.

We cannot conclude this brief notice of Dr. Cowan's translation without adverting once more to what is his own more immediate performance, the preface to the treatise: and we do this for two reasons,—first, because we wish to lay before our readers an interesting fragment of what may be truly called the professional or intellectual history of M. Louis; and, secondly, because we cannot have a better opportunity of calling the attention of our younger professional brethren to the particular method, or instrument, with which this author has worked out all that he has accomplished in medicine. This instrument is simply the rigid registration of all the facts that present themselves in the observation of cases of disease, and the classification of these facts in such wise as fairly to elicit the general results. From the form and mode of registering the phenomena, and calculating the results, the method has been styled "the numerical method;" and, although, as Dr. Cowan justly remarks, M. Louis has no pretensions to be its discoverer, inasmuch as it has been followed, more or less, by all the more accurate observers in all the natural sciences, still "he is fairly entitled to the merit of having been the first who has rigorously and extensively applied it to medicine;" or, perhaps, as we should have said, "the individual who has most rigorously and most extensively applied it."

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[*] We are not a little surprised to find Dr. Cowan, whom we had given the credit of adopting the word sectio, objectionable as it is, out of mere dislike to the barbarism *post-mortem,* when used adjectively, actually employing the same word as a *substantive,* which is even a more intolerable nuisance than the other: thus, "he followed the visits, *post-mortems,* and lectures, &c." Note, p. xvi.

In the following extracts, the peculiarities and merits of this method are well exposed, and the progress and proceedings of M. Louis are given with only their true colouring. The whole details are extremely creditable to Dr. Cowan; and, with the strong conviction which we have of their importance to all who are now entering on the most important part of *the study* of their profession, *the practice* of it, we make no apology for their length. The numerical method requires for its successful application nothing but what every well-educated physician and surgeon may possess, and ought to possess, namely, industry and patience in observing, and fidelity in recording facts, and common attention and caution in arranging the necessary results. It needs neither a piercing intuition nor a quick fancy, neither a capacious memory nor profound reasoning powers; yet it is capable of effecting greater things in medicine than any of these,—we had almost said, than all of these,—without it. In our next Number, [see a Review of M. Louis's work on the Effects of Bleeding, &c.,] will be found many of M. Louis's own remarks on this method. Still, we think the following account of it by Dr. Cowan may obviate certain objections that would be very likely to rise up in the mind of the English reader to the adoption of what may probably be considered as only an ingenious novelty.

"Our author presents an interesting example of the effect produced upon the mind by the contemplation of the uncertain nature of much of our medical knowledge; and he is also an illustrious proof of what the exertions of a single individual can effect, when, unfettered by theory or system, they are steadily directed to the simple, unbiassed observation of facts. M. Louis, from the age of seventeen to thirty-three, studied and practised medicine in Russia, with considerable success. Gifted with a naturally active and enquiring mind, the multitude of opinions, contrasted with the paucity of facts, could not fail to create great dissatisfaction and uncertainty as to the validity of many of the principles most generally admitted, and on which much of our practice was founded.

"Accidental circumstances, at the close of this period, bringing him to Paris, he soon became acquainted with, and eagerly studied, the writings of the celebrated Broussais; at the same time assiduously following that distinguished pathologist, both in the hospital and lecture-room. The impression produced upon his mind by this direction of his studies was, that, while M. Broussais evidently proved others to be wrong, he was very far from demonstrating himself to be right; that, while he rendered palpable the doubts which might reasonably be entertained respecting many of our present principles, he had failed to substitute any thing more satisfactory in their place. From this moment M. L. resolved to devote himself *exclusively* to observation, solely actuated by a desire to relieve oppressive doubt and uncertainty, and with no intention of ever giving publicity to his labours. He at once decided on remaining at Paris, as affording the best opportunities for prosecuting his intentions, and entered the hospital of La Charité as a *clinical clerk*, under his friend Professor Chomel. For nearly *seven years*, including the flower of his bodily and mental powers, (from the age of thirty-three to forty,) he consecrated the whole of his time and talents *to rigorous impartial observation*. All private practice was relinquished, and he allowed no considerations of personal emolument to interfere with the resolution he had formed. For some time his extreme minuteness of enquiry and accuracy of description were the subjects of sneering and ridicule, and *cui bono* was not unfrequently and tauntingly asked. The absence of any immediate result seemed for a time to justify their contempt of a method involving too much labour and personal sacrifice to be generally popular or easily imitated, and M. Louis himself at moments almost yielded to the increasing difficulties of the task he had undertaken. No sooner, however, were his facts sufficiently numerous to admit of numerical analysis, than all doubt and hesitation were dissipated, and the conviction that the path he was pursuing could alone conduct him to the discovery of truth, became the animating motive for future perseverance. Many of the results to which he arrived soon attracted general attention, and, among those who had formerly derided his method while they admired his zeal, he found many to applaud, and a few to imitate. From this moment may be dated the presence of that strong impression of the necessity of exact observation, by which the school of Paris has been since so distinguished, and which is now gradually pervading the medical institutions of the continent and our own country. It is undoubtedly to the author of the present volume that we ought to ascribe the practical revival of that system which had for ages been verbally recognised, but never before rigorously exemplified. For the last five years he has been physician to the hospital of La Pitié: the number of advanced students (principally English, American, and German,) who follow his visits and clinical lectures, are the best testimonies to the indefatigable zeal and talent with which he still pursues his investigations, and, contrasted with the now-deserted wards of M. Broussais, forms a practical illustration of the striking change which has been effected in the spirit of medical enquiry.

"With no preconceived views of his own to establish, (and we believe no one who *has* will observe seven years!) all results from such researches cannot fail to address themselves to our confidence; and, in the present instance, they have not only the additional value of having been made at a period of life when the judgment is matured and fancy regulated, but by one who, so to speak, *began his studies* after several years' practical experience of their difficulties. He regarded each individual example of disease as a problem which could only be solved by patient and exact observation: with this conviction, he studied *all* the functions during life, from the commencement of the disease to its termination: for the same reason he examined all the organs after death; and, when attempting to arrive at any general conclusion, he not only analysed the facts he had collected relative to that disease, but submitted them to a rigorous comparison with other diseases which were at all analogous. It is evidently one thing to determine the series of symptoms, or alterations of structure, which are present in any particular affection, and another to discover what symptoms or alterations are special and characteristic: the one is obtained by confining ourselves to the disease itself, the other can alone result from comparison. A very short time was sufficient to make the discovery that *observation* was immensely difficult; a fact which authors have hitherto overlooked, thus plainly proving that they themselves observed incompletely. The power of correct observation is not the attribute of ignorance, but is, *cæteris paribus*, always proportioned to the knowledge the individual possesses. With what additional profit and success does the painter, the sculptor, the naturalist, observe, after a long cultivation of their respective arts, and how numerous are the details detected, which would wholly escape the unpractised novice? Now, if an accurate conception of external characters, when passive under the eye of the observer, demands long and patient exercise for its acquirement, how much greater must be the difficulties surrounding the complicated machine of the human figure, under all the varied influences and the innumerable modifications of which it is susceptible? The phenomena are not only complex and ever varying, but they must often be examined through the distorting medium of a suffering and fanciful mind, and are frequently described with the intention to mislead and deceive.

"Not to be continually the dupe of such sources of fallacy, (and the most practised do not always escape,) requires long habit and extensive general knowledge, and no one can have APPRENTICED himself, as the author in his preface remarks, to the *trade* of minute and rigorous examination, without a deep conviction of the difficulties attending it, and the necessity of long continued perseverance." (*Pref.* p. xviii.—xxi.) * * *

"But observation, however extended and exact, is of itself insufficient to generate conclusions; for, collected as our facts must have been, through a series of months or years, and consisting of an infinite variety of details, no memory could recall, and no mind could grasp, their complicated relations with each other. To accomplish this, the '*numerical method*' is necessary; that is, *counting* the number of all the individual facts, comparing their relative frequency in cases of a particular class, and then determining their real value by a comparison with facts of other classes, which have also been reduced to similar elements. This is the plan pursued by our author, and which must be adopted by all who would seek to establish truth and arrive at general results. Hitherto we have satisfied ourselves with the authority of *experience;* and its currency in medicine is such, that any distinct definition of its value has scarcely been attempted. But let us enquire what is really included by experience? Is it not the expression of the conclusions of the mind upon one or more subjects, to which the attention has been habitually directed? Is it not, simply, the final impression produced by a review of the past? If the discovery of truth be its tendency, why has individual experience been hitherto so discordant? The answer is easy. In a science like medicine, where the difficulties of observation are so great, and the objects to be observed so numerous; where theories bias, and individual peculiarities necessarily exert their influence, nearly all, if not all, the conclusions of mere experience are varying and fallacious. Who does not feel himself naturally inclined to study one class of affections more than another, to be arrested by particular symptoms, to be more interested with facts which apparently coincide with some favourite views he has either adopted from others, or insensibly formed during the course of his studies? How strongly all *extraordinary* facts, and what we call *interesting cases*, are engraven upon the mind, and for ever prominent in the retrospect, while the great mass of *ordinary*, and consequently *important*, occurrences are overlooked or forgotten? Some unhoped-for success attending the means we employ, how firmly has it associated the cure of the disease with the specific nature of the remedy; and how easily do we admit as a fact what the observation of another proves to be the mere expression of a coincidence? Every practitioner has his peculiar therapeutics, his favourite dogmas to support, and successes to boast; and, when we reflect on the innumerable opinions which exist on all complicated subjects, where conclusions are founded on the materials of unrecorded individual experience; materials which opportunity, education, and a thousand accidental circumstances, are for ever modifying; we cannot, I think, be surprised that the results of experience in medicine have not been more uniform and satisfactory.

"While anxious to impress upon the reader our conviction that unrecorded experience can never become the corner-stone of any science whatever, we admit that it has justly acquired, in a few rare instances, unusual relative value, from the capacious intellect and retentive memory of some highly favoured minds. Devoted, as we have described our author to have been, to the observation of facts, and divested, as he was, from the very state of mind which actuated him to the course he so undeviatingly pursued, from all *preconceived opinions*, yet it was impossible that, during so long a period of time, his mind should not have been unequally impressed by the phenomena before him, and have unknowingly fixed some in its remembrance, to the exclusion of others, instinctively allotting them a relative value, and arranging them to favour some *a priori* conclusions. Now, no circumstances could possibly have been more favourable to test the value of experience than those in which M. Louis was placed; yet when, at the close of his labours, he submitted all his facts to the unerring test of arithmetical analysis, *in every instance were the* a priori *conclusions, which he had formed from the recollection of his own facts, found to be erroneous.* This most remarkable result ought to be indelibly engraven on the mind of every observer, and inspire a doubt as to the validity, not only of the experience of others but of what he has hitherto perhaps considered almost infallible, *his own.*" (*Pref.* xxii.—xxiv.)

"The numerical analysis requires, in the first place, a sufficient number of carefully collected facts on the same subject, our object is then to classify their corresponding elements, so that not only are all the details of those facts successively submitted to the mind, but their relative frequency and value more easily estimated. To effect this, synoptical tables are indispensable, and their number necessarily proportionate to the complex nature of the facts we are analysing. Each organ, for instance, must have a separate column, which includes its description in every case we intend to make use of, adopting as near as possible similar terms for similar conditions.

"This, however, alone would be very inefficient, as in a complicated structure like the lungs, where so many alterations may occur, a long series of minute descriptions would defy analysis from simple inspection; each organ therefore, in its turn, becomes the subject of a separate table, which also consists of subdivisions proportionably numerous as the object we examine is simple or complex. When we have thus arranged all the elements of our facts, we compare the results of our different columns with each other, having it thus in our power to view them in their various relations, while we may at pleasure refer particular facts to their respective observations, the same number accompanying all the details which are scattered through a variety of tables.

"It will be remembered there is nothing arbitrary in this mode of proceeding, nothing left to individual caprice or preconception; for, in the arrangement of our tables, we perform a purely mechanical operation, indiscriminately putting down all the facts in their respective columns, without any reference to the conclusions to which they ultimately tend. The correctness, then, of any opinions we may form, is confirmed or rejected by a test over which we have no control, and the evidence of which no well-regulated mind can resist, while not only the relative importance of many facts to which our attention had been less distinctly directed, or which we had wholly forgotten, is forced upon our consideration, but we are also led to the discovery of what we have only casually or incompletely described.

"It will at once be perceived that certain laws require, for their elucidation, a much larger number of examples than others: where a hundred observations may in one case be sufficient, three times that number may be required under other circumstances. Indeed, as a general rule, the more complicated the objects we examine, the greater the number of facts necessary to establish our conclusions; for the same elements not being repeated in all, their relative aggregate number must vary, and their real value can only be estimated by tracing them through a larger number of analogous instances. Were we, for example, analysing one hundred cases of pleurisy, the value of any symptom invariably observed would be considerable, and perhaps sufficiently established; but, were it only present twenty times out of that hundred, its real importance would be much less positive, and require an additional number of facts for its determination.

"For the appreciation of treatment, the necessity for numerous facts is peculiarly apparent, for though a hundred cases would be valuable evidence in favour of any one system of cure, it is only by comparison with others that its real efficacy can be decided. There are also other sources of fallacy which must not be overlooked; such as the severity of the disease, the age and sex of the patient, the state of health at the time, the natural duration of the affection, the epidemic influences which may be present, &c.; these are all questions to be solved before we can arrive at any positive results. From these rapid reflections, we may form some idea of the numerous difficulties which surround every question of therapeutics, and feel the necessity of exercising the greatest caution in ascribing any definite value to a remedy before we have well determined, by numerously analysed facts, the exact circumstances under which its action has proved to be beneficial. No part of medical knowledge is more in want of some rigorous method of investigation than that of therapeutics, and this must ever be the case, until a system analogous to the one we have briefly described shall be generally adopted.

"It is not our intention, in advocating the numerical method, to conceal for a moment its difficulties: these are great and numerous, but at the same time they can never form any solid argument against its utility, though they will necessarily curtail the number of its disciples. It is, in fact, the only method in our power to pursue; it is the only control we can possess over assertion, the only test for opinion, and though not all we can wish, and no doubt will ever be found inadequate for the decision of many questions, yet its application to a sufficient number of facts must inevitably give us the most exact and best possible knowledge of those facts, and we would ask the individual who believes that science is founded upon facts, what more he would require?

"How could we have ascertained that tubercles in any organ of the body, after the age of fifteen, involved their presence in the lungs? That phthisis almost invariably commences in the upper lobes? That it is more frequent in women than in men? That pneumonia is more easily resolved in a tuberculated than in a healthy lung? That simple bronchitis commences at the base of the lungs, pursuing a course inverse to that of phthisis? That chronic peritonitis indicates pulmonary tubercles? That acute affections, when free from complication, are generally confined to one side of the body, or one part of an organ if single? How could these, and many other results, be obtained but by rigorous observation and numerical analysis? And what theory have we ever heard of, which could have led us to the same conclusions? Had they been advanced as the fruits of speculation, how absurd some of them would have appeared, and their very announcement would have almost ensured their rejection; but founded as they are on the evidence of facts, our ignorance of the laws on which they depend is no bar to their practical utility. We know of no considerations more directly in support of the numerical method, or more encouraging to all who have the necessary opportunity and perseverance for its adoption, than this almost spontaneous creation of laws, which must have escaped the sagacity of reasoning, from the simple fact that, when demonstrated, they refuse to coalesce with any of our preconceived opinions." (*Prf.* xxv.—ix.)

We ought to have stated before, that the translator has added many valuable notes to different parts of the text; and that the last two chapters of the work, *on the Causes and Treatment of Phthisis*, which are extremely scanty and unsatisfactory in the original, have been greatly enlarged, almost indeed supplied by him. In these various additions, the translator has throughout evinced a sound judgment, and displayed an extensive acquaintance with the literature of his profession. He has proved himself fitted for the important task he has undertaken, by shewing that he possesses no mean share of that talent for observation, that acquired knowledge, that philosophical spirit, that industry and rigid honesty, which so happily distinguish the illustrious author of the original treatise.

ART. II.—*An Exposition of the Nature, Treatment, and Prevention of Continued Fever.* By HENRY M'CORMAC, M.D.—*London*, 1835. 8vo. pp. 202.

IRELAND has long presented a wide field for the investigation of fever, which her enlightened physicians have not left uncultivated. In the Dublin Hospital Reports, and in the Transactions of the College of Physicians, most able monographs have been published from time to time, containing the observations of those who had adequate opportunities of examining the disease on a large scale. They followed the example set them by Sydenham, of describing the epidemic fevers of separate years, or seasons, and they also gave a more ample detail of individual cases, and tabular arrangement, which afforded their readers opportunities of judging for themselves as to the value of the conclusions. From these enquiries have been gained, further proofs of the truth of many of the most important statements of Sydenham, particularly as to the frequency of local complications in fever, and their varying in different seasons of the year, and in different epidemics, circumstances which should be taken into full consideration in the treatment. Dr. M'Cormac has not followed this plan. He has not confined himself to the particular fever of a given spot, but he has written an essay on Typhus Fever in general, compounded of the experience of himself, and of others in various places, and at different periods. "I have," says Dr. M'C., "endeavoured to elucidate the results of my own experience, and supply its deficiencies by a copious reference to the works of the best writers."

Perhaps in the whole range of medicine no subject could be chosen more difficult to execute in this manner than fever. In the examination of a common inflammation, for instance, such as Iritis, or Pneumonia, the observations of others in all periods, and in all countries, can be advantageously selected to complete the writer's own history of these diseases, as they vary but little in all ages and countries; but the same does not hold good in a disease of which the form, complications, treatment, &c. differ so remarkably in different places, seasons, and years, as the disease in question. The materials at our disposal, although abundant, are not sufficiently precise to be woven into one whole, even if a man competent to such a task could be discovered.

But there is another way by which the writings of others can be turned to good account in the investigation of fever, and that is by comparing carefully one's own observations with those of others, or the observations of one writer with another, in order to duly estimate the value of the conclusions of the several investigations as to causes and treatment. Dr. M'Cormac has neither attempted a solid analysis, nor a careful comparison of the observations of the numerous writers whose works he has quoted, but has assumed that continued fever is one and the same disease in all countries, and at all times, and, in framing a catalogue of symptoms and signs, has introduced those which he has not observed himself from the books of others. As it is quite impossible to separate the results of Dr. M'Cormac's own experience, so as to give the reader any idea of the varieties of fever which he has at any time observed, we shall merely give a sketch of the plan of the work, and of the views adopted by the author, with an estimate of the manner in which it is accomplished.

Dr. M'Cormac states that he has had ample experience of the disease in three different quarters of the globe, and that for some years past he has been professionally connected with the Belfast Dispensary and Fever Hospital, where he has enjoyed almost every additional opportunity that he could wish "for cultivating a very close acquaintance with continued fever in all its forms." He adopts the opinion which was commonly entertained by the older physicians, and which, although occasionally opposed, is still the one most generally received, that fever is not a local disease, but one affecting the whole system. He arranges the phenomena of continued fever under one common head, which he calls Typhus, and makes no subdivisions indicating its varieties. He supposes that the cause of fever (whatever it may be) acts on the nervous system primarily, and thus the functions of assimilation, secretion, animal heat, absorption, sanguification, the external and internal senses, &c. with which the nervous system is either directly or indirectly concerned, are more or less deranged. The frequent occurrence of inflammation of the brain, lungs, and intestines, during the course of fever, is recognized, and the difficulties of detecting them are more strongly dwelt on than the signs by which they are distinguished; the writer rather looking on the general condition of his patient as furnishing indications for treatment, than on the minute investigation and diagnosis of the particular symptoms of diseased structure. There is a short and clear sketch of the morbid anatomy of fever, condensed apparently from the works of French authors, without any allusion to his own experience. The treatment occupies a considerable portion of the volume, and is by far the best part. There is no novelty, but much judicious advice, both in warnings against routine practice, and in urging a careful consideration of circumstances in every individual case. In simple cases he commences with an active purgative, which is repeated in a milder form as occasion may require throughout the disease; and trusts to cleanliness, starving, weak fluids, and cool air. When he sees a case at the onset, he orders an emetic. If there are symptoms of general excitement, he bleeds according to circumstances; but is by no means an advocate for active depletion. If there are symptoms of cerebral inflammation which do not yield to general or local bleeding, and the strength is giving way, he gives calomel and opium, and rubs in mercurial ointment over the scalp, thighs, and arms, so as to affect the mouth; in thoracic inflammations, in addition to antiphlogistics and counter-irritants, he employs the tartar emetic, dissolving one grain in an ounce of peppermint water, and giving one tablespoonful every half hour. He has known injurious effects follow active purging in these cases, and he employs purgatives cautiously. When pneumonia occurs with great nervous prostration, he recommends moderate venesection with antimonials, and counter-irritation by a blister only kept on until the skin is red, or by a piece of flannel dipped in turpentine, and covered with oiled silk, and retained on the chest until sufficient irritation is produced. If, with symptoms of general excitement, there is pain on pressing the epigastrium, he orders twelve or more leeches to the part, and repeats them, or applies turpentine if the pain continues, unless the patient's strength flags, when he desists from depletion. If with general excitement there is diarrhœa he pursues the antiphlogistic treatment, but if the evacuations continue, and the strength flags, he checks them with opium. Whenever there is constipation he gives purgatives: in obstinate cases one drop of croton oil in an ounce of olive oil produces an easy discharge. The employment of opium when perforation has taken place, according to the valuable suggestion of Dr. Graves, is mentioned, but the principles on which it was recommended are not fully stated. He is cautious in administering purgatives if there is diarrhœa, and when constipation exists with considerable prostration, he uses warm water clysters, or the warmer purgatives. He is no advocate for saline medicines, diaphoretics, and diuretics. The administration of stimuli during the period of prostration is considered at length. "If the pulse is soft and small, though quick, and the tongue moist, although not clean, and the patient labour under considerable debility, wine will generally do good." The effect of wine, however, must be carefully watched, and it must be persevered in or discontinued, according to its effects. The diet of the patient during the disease and convalescence is minutely considered, as well as the general management of the bed-chamber, bed, skin of the patient, &c.

The work concludes with observations on the prevention of epidemic fevers, a branch of medical police of vast importance, particularly in Ireland. The crowded state of the confined habitations of the poor of their large cities, ill-ventilated and insufficiently furnished with drains, and the scarcity of food, amounting to actual famine, from the failure of the potato crops, among the country people, are mentioned as fruitful sources of the worst form of fever. Dr. M'Cormac expresses a wish that more corn could be raised in Ireland, so as to substitute more generally bread for potatoes, in order that the poor should not be exposed to the miseries which necessarily arise from the exclusive employment of an article of diet, which cannot be kept (like corn,) from year to year.

In the execution of this volume Dr. M'Cormac has shown that he is practically acquainted with fever, as well as with the works of the best writers on the disease. In his numerous notes he gives ample evidence of his familiarity with the productions of ancient and modern authors relating to every part of his subject, and in almost every language; and in some of them he shews so much power of stating in a condensed form the opinions of others, that we regret the more that he did not confine to the notes the matter which was not the product of his own observations. He has evidently reflected on the most debateable questions arising out of his subject, and if he fails in throwing any new light on what is obscure, he frequently explains with clearness the sources of difficulty. A radical defect, however, in the whole volume is the want of method every where observable, which impairs the utility of his book, and prevents the reader from doing justice to the author. There is no index, no table of contents, no division into chapters, sections, or of any other kind. From the beginning of the book to the end (with the exception of the preface and introduction,) there is so complete a continuity, that no very clear sentences ever mark the transition from the most distinct portion of the subject to the next. The same absence of method is evident in every page: the writer has great difficulty in restraining himself to the division of the subject which he intends to discuss: the examination of symptoms is occasionally interrupted by reference to treatment, the diagnosis is mixed up with the history of the various attendant inflammations; and general moral reflections, maxims of medical ethics, and rules for medical reasoning, are liberally interspersed throughout: all sufficiently excellent in themselves, but calculated, from their indiscriminate intrusion, to distract the attention of the reader from the main question. Dr. M'Cormac writes with freedom, and sometimes with considerable vigour, but he occasionally sins against taste, by the introduction of unusual words, and in the construction of many of his sentences. Thus, "operating the resolution of pneumonia;" "associations of mere intellection," or a theory being "the act of reasoning on facts," are sentences which sadly disfigure the composition.

In thus stating the impression which a careful perusal of Dr. M'Cormac's work has produced upon us, we would by no means convey an idea unfavorable to his abilities; for he undoubtedly possesses considerable talents and acquirements: we only question whether he has employed them as beneficially as if he had adopted the more laborious and satisfactory way of investigating disease which is adopted by our first pathologists, and had given the results of his own observations, not in the form of unsupported general descriptions, but attested by cases, and investigations after death, carefully analyzed, reflected on, and compared.

Art. III.—*The Cyclopædia of Practical Medicine.* Edited by John Forbes, m.d. f.r.s., Alexander Tweedie, m.d., and John Conolly, m.d.—Four vols. Royal 8vo. *London*, 1833, 1834, 1835.

It will not be expected by our readers, considering the names which occupy the title-page of this review, that we should attempt to give any thing like a detailed analysis, much less a critical judgment, of the work of which we have now transcribed the title. Yet we feel that we should not be doing justice, either to our readers or the distinguished authors of the Treatises of the Cyclopædia, so recently concluded, if we omitted all notice of it. Independently of its merits as a separate work, its publication must be regarded as marking an important epoch in the medical [literary] history of this country. No attempt had been previously made in Great Britain to unite the great body of practical men of eminence, in any one branch of the profession, in a combined plan of embodying and giving to the world the actual state of our knowledge in that particular branch; and no individual had yet succeeded, though some had made the attempt, in producing such a work as might be fairly considered to represent the great and characteristic features of British medicine in these later times. The Cyclopædia has certainly done the one, and professes to do the other; and, although the relation in which we stand to it forbids us from giving any opinion as to the extent to which it has fulfilled its professions, nothing need preclude us from giving some account of the manner in which this has been attempted. This, however, we shall do very briefly, and in a way, we trust, not to compromise our own independence, or give offence to the most scrupulous of our readers.

The only works published in the English language previously to the Cyclopædia, and having any thing of a similar plan, are the four Dictionaries, by Drs. James, Motherby, Morris, and Parr. The first of these, comprised in three very large folio volumes, was published, the first in the year 1743, the second and third in the year 1745. This dictionary is on a most comprehensive plan, containing indeed all the collateral branches of medicine and surgery, as is evidenced by its title, "A Medical Dictionary; including Physic, Surgery, Anatomy, Chymistry, and Botany, in all their branches relative to medicine; together with a history of drugs, an account of their various preparations and uses." It is a work of very considerable merit, containing an infinity of important facts and details; and although consisting, in a great measure, of a continued series of extracts from preceding authors, put together very inartificially, and with only a scanty share of editorial cement, it must be allowed to be a convenient storehouse, where the reader may securely seek for, and will find, much that is recorded in the best works of preceding authors. The editor has, indeed, been singularly sparing of his comments; and, although he appears to have been so advisedly and on principle, we confess we should have gladly resigned a modicum of his borrowed opinions for some of his own. But Dr. James's modesty was equal to his learning. "If," says he, in his preface, "this work is a little more prolix than was at first proposed, the purchaser will find his account in it; and will, it is presumed, be more inclinable to pardon it, when he reflects upon the mortification an author must suffer whilst he sacrifices, to the interest of his readers, entire pages of his own productions; provided he can believe me to have a tenderness for my own literary offspring, equal to that of most other writers for their works; a supposition by no means unreasonable, especially when I assure him I have taken infinitely more pains to divest myself of prejudices in favour of any theory, system, or mode of practice whatever, than I have to conquer my affections." This preface, by the way, is a very extensive and learned history of physic, from the earliest times down to those immediately preceding his own, and well merits the reader's notice.

The compilation of Dr. Motherby was first published in the year 1776, in one volume folio. A second edition was published by the original editor, shortly after the first; and subsequent editions were given by Dr. Wallis, in 1791, 1795, and 1801; the work, in the last, being augmented to two volumes. This work, regarded as a Medical Dictionary, in the ordinary acceptance of that term, is superior to that of Dr. James: it contains much information of a more modern stamp, especially the later editions by Dr. Wallis; but, regarded in a medical point of view, or as a collection of monographs on medicine and the collateral sciences, it is greatly inferior, and is indeed scarcely of any use to the practitioner. It has few, if any, pretensions to be looked upon as a system of medicine; but it is by no means without value as a Medical Lexicon, and compendium of medical science at the time it was compiled. Its title is as follows: "A New Medical Dictionary, or General Repository of Physic; containing an explanation of the terms, and a description of the various particulars relating to Anatomy, Physiology, Physic, Surgery, Materia Medica, Chemistry, &c. &c."

The Dictionary usually known as that of Dr. Parr, although it is entitled "The London Medical Dictionary," is, in fact, only a greatly improved edition of the work of Dr. Motherby and Dr. Wallis. It is much better known than the preceding, and is indeed much more deserving of being known. We still think, however, that Dr. Parr made use much too largely of the work of his predecessors, to justify him in putting his work forth as an original. "The work," he says, in his preface, "is to be considered as original, and the names of Motherby and Wallis are consigned to the oblivion from which they had for a time escaped." This seems to us not merely to be spurning the dead lion, but to be doing so at the very time he is making use of the carcase to promote his own objects. Like its predecessors, the Dictionary of Dr. Parr comprised the whole of the medical and collateral sciences; and consequently, although its extent is considerable, (two thick volumes in quarto,) it could only give a meager epitome of any one department. The work fulfils the promise of its title as to variety of subjects, but it was impossible to give any thing like satisfactory views of any of them within such narrow limits. Every thing not borrowed from the works of Drs. Motherby and Wallis was, we believe, the production of Dr. Parr's own pen. The following is the title: "The London Medical Dictionary; including, under distinct heads, every branch of medicine, viz. Anatomy, Physiology, and Pathology, the Practice of Physic and Surgery, Therapeutics, and Materia

Medica; with whatever relates to Medicine in Natural Philosophy, Chemistry, and Natural History." It was published in the year 1809.

Two years before the publication of Dr. Parr's Dictionary,* a work, of the same general character, appeared at Edinburgh, under the avowed editorship of Dr. Robert Morris and Mr. Kendrick, surgeon, entitled "The Edinburgh Medical and Physical Dictionary; containing an Explanation of the Terms of Art in Anatomy, Physiology, Pathology, Therapeutics, Surgery, Midwifery, Pharmacy, Materia Medica, &c. &c.; also a copious account of Diseases, and their Treatment, &c." It was published in the same form, and is nearly of the same extent, as Dr. Parr's Dictionary, consisting, like it, of two thick volumes in quarto. This Dictionary is, on the whole, decidedly inferior to that of Dr. Parr. It is much more of a compilation, and indeed contains hardly any thing original, being avowedly composed, in a great measure, from the published works of preceding authors. Before the appearance of the London Dictionary, it was, however, the best modern Medical Dictionary in our language; and in some departments, especially the surgical, it is still superior to its more popular successor and rival: yet it never was, and never deserved to be, esteemed a work of good authority.

The Medical Dictionary of Quincy, afterwards so much improved by Dr. Hooper, and some other works of the same kind, do not require any notice in this place, as they were only intended as technological lexicons, and have no pretensions to be regarded as exhibiting a view of any of the departments of medical science.

On the continent of Europe alphabetical arrangements, or systems of medicine and the medical sciences, were undertaken on a scale of much greater splendour and extent, long before the publication of the Cyclopædia was thought of; and it is to them that we must look for the principles and plan on which the last-named work was constructed.

The first Medical Dictionary on a large scale published in France is that which constituted a part of the great *Encyclopédie Méthodique*, begun in the year 1782, and only very recently concluded. The portion of this great work devoted to the medical sciences (Dictionnaire de Médecine) amounts to fifteen volumes in quarto. Having commenced so far back as 1787, much of the information contained in the earlier volumes is obsolete, and the articles in the beginning of the alphabetical series form a remarkable contrast, in this respect, with those at its termination. It is written by a great many different authors, many of them of great eminence; and, on the whole, it is a work of great value, especially the latter volumes.

The next work of the same kind from the prolific press of France is the great *Dictionnaire des Sciences Médicales*: it commenced in the year 1812, and terminated in the year 1822, and consists of sixty volumes 8vo. As its title implies, it comprehends the whole of the medical sciences, and it numbered among its writers all the most eminent men of France. It is a work of unequal merit; but, taken as a whole, it comprehends more information than any other work of the kind that has been hitherto published. The very comprehensiveness of its plan renders it unwieldy, and its great price limits its circulation. In some measure to remedy these inconveniences, an abridgment of it has been published in fifteen volumes 8vo., under the title *Dictionnaire abrégé des Sciences Médicales.* It commenced in 1821, and terminated in 1826.

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* We believe an edition of the London Dictionary of Medicine made its appearance in 1807 also, but was afterwards suppressed.

Contemporaneously with this abridgment appeared the *Dictionnaire de Médecine,* the joint production of from twenty to thirty of the most distinguished men in the profession in France. Like its predecessors, it embraces all the branches of medicine. It terminated in 1828, and consists of twenty-one volumes 8vo. There is a new and much improved edition of this work now in course of publication, under the title *Dictionnaire de Médecine, ou Répertoire général des Sciences Médicales.* It contains new articles by the present editors, and considerable additions to the old, and is on the whole a very excellent work. It has been in the course of publication about three years, and has reached its twelfth volume.

This work was scarcely concluded when another, nearly on the same plan and extent, made its appearance, the *Dictionnaire de Médecine et de Chirurgie pratiques,* which is scarcely yet completed. It consists of fifteen volumes 8vo. As a practical work on medicine and surgery, this dictionary certainly excels all its predecessors: the articles are more select, and those on the most important subjects are much fuller than in the *Dictionnaire de Médecine,* and they are also on the whole better. It is the production of about twenty of the most celebrated physicians and surgeons of the present æra. This dictionary gives bibliographical notices at the end of the articles; a very laudable practice, which had not been adopted by its immediate predecessor. We ought to have mentioned that the bibliographical references in the *Dictionnaire des Sciences Médicales* are very extensive.

Several other nations on the European continent have also taken precedence of England in the publication of works of this kind, but none of them have exhibited the same activity as France. In Germany several have appeared, but only one, we believe, on precisely the same plan as the French dictionaries just noticed.

Of the smaller works, the *Encyklopädie der Heilwissenschaft,* by Burdach, in three vols. 8vo., is the best. The first volume of this was published as early as 1800, but a new edition of the whole was given in 1816.

A more extensive work is that published by Consbruch, Ebermaier, and Niemann, under the name of *Allgemeine Encyclopädie für praktische Aertzte und Wundärtzte,* in eleven volumes 8vo., commencing in 1815, and terminating in 1830. It is entirely written by the above-named authors, and consists of a series of manuals on the different departments of the Medical Sciences. It contains no original dissertations.

The *Encyclopädisches Wörterbuch der Medicinischen Wissenschaften,* now in the course of publication, is entirely on the same plan as the great French dictionaries, and partakes of all their excellencies and defects. It is edited by Graefe, Hufeland, Link, Busch, and Müller of Berlin, and enrols in its list of contributors the most distinguished writers of Germany. It was begun in 1828, and has now reached its twelfth volume, and the letter F.

Besides the above, there is now in course of publication, in Germany, a translation of the Dictionnaire de Médecine, by Meissner and Schmidt.

An abridged translation of the same work is also publishing *in Italian*, at Venice; it commenced in 1831: also a translation of the last French dictionary, and of the English Cyclopædia of Medicine; the former at Venice, the last at Leghorn.

Spain, although one of the last in the advance of medical science, can boast of more than one Medical Dictionary. In 1807, one was published at Madrid, by Ballano, in seven volumes 4to., to which a Supplement was added of four volumes more, by Hurtado, in 1823. Both these are mere compilations, chiefly from the French. Besides these there is a professed translation, or rather an abridgment, of the *Dictionnaire des Sciences Médicales*, which has already reached beyond the thirtieth volume, and is not yet complete.

The Cyclopædia of Practical Medicine coincides with the best of the continental dictionaries, in consisting of a series of original treatises written by a great number of different authors; but it differs from all of them in the greater comparative number of its writers, and in the more limited variety of its subjects. All the French Dictionaries, as we have seen, treat of the whole body of the medical sciences; the Cyclopædia, as its title indicates, contains only treatises on the nature and treatment of such diseases as come strictly within the domain of medicine, on materia medica, therapeutics, and medical jurisprudence; it takes no notice whatever of anatomy, physiology, surgery, chemistry, botany, &c., which occupy so large a portion of the Foreign Dictionaries. Notwithstanding this, the number of writers is comparatively much greater in the English work, being not fewer than sixty-seven, (and all physicians,) as we find by reckoning the names in the list prefixed to the first volume, while the names, as given on the title-pages of the Foreign Dictionaries, are, for the Dictionnaire des Sc. Méd., 81; the Dict. de Méd., 28; and the Dict. de Méd. et de Chir. Prat., 22. The number of writers in the great *Wörterbuch*, which promises to be almost as voluminous as the Dict. des Sc. Méd., although it was announced in the preface to consist only of twenty-five volumes, is seventy-three.

In consequence of the limitation of the work to the domain of Practical Medicine, the different subjects are, generally speaking, treated at much greater length than in the foreign works: and it might therefore be presumed that the distribution of the materials to so many writers must give a greater chance of originality, as well as comprehensiveness, than if every different writer, instead of limiting himself to one subject or class of subjects, had entered upon several. We are much mistaken if a comparison of the English with the foreign works will not prove this to be the case.

Prefixed to the first volume is a history of Medicine of considerable extent, written by Drs. Bostock and Alison; the former bringing it down to the commencement of the current century; the latter completing it to the present time. Appended to the whole is a very extensive Bibliography and a copious Index.

We will not permit ourselves to say anything more respecting this work in our character of critics, but shall conclude by laying before the reader a few extracts from the preface, yet further explanatory of its nature and objects, avoiding as much as possible all statements which involve mere opinions of the Editors, or which can in any way be judged to compromise our impartiality.

"The ambition of the Editors was not limited to the formation of a mere manual, fitted for those who only demand the smallest supply of exact intelligence with which practice can be carried on, or professional station maintained, without a palpable exposure of ignorance. Their object was no less than to prepare a compendium of the best parts of ancient and modern medicine, theoretical and practical; not passing over with disregard the vast literature of the ancient writers, but rather rescuing it from the voluminous oblivion in which much of it was lost; and also collecting with care the more accurate, condensed, and applicable knowledge of modern authors and of modern times into a liberal and consistent system, from works little known to the generality of English readers, and familiarly known to very few.

"Thus, whilst the great claims of the older cultivators of medicine have never been forgotten, the labours of the moderns, and more particularly of the French, German, and Italian pathologists, by which, conjointly with those of British practitioners, the whole face of practical medicine may be said to have been changed, have attracted the most diligent and thoughtful attention. The learned reader does not require to be assured that the task of reference for specific information to many older works, once of high and deserved authority, and still esteemed, is often both tedious and little profitable, whilst their ample volumes yet contain much valuable matter, not unworthy of preservation, and which it is no fruitless employment to endeavour to place along with the better arranged facts of later writers, in one view, before the practitioner and the student. Throughout the prosecution of this large design, it has never been forgotten that the Cyclopædia would be referred to by various readers for various objects: by the young practitioner as the guide and counsellor of practice, especially when beset with practical difficulties; by the older practitioner for complete and concise information, and for medical learning not scanty and illiberal, but without scholastic pedantry; and by the student for applicable knowledge, suited to the actual time, collateral with and auxiliary to his prescribed studies, and satisfactorily directing the efforts of his inquiring mind." (P. 2.)

"However natural and proper it may be for the Editors to take a retrospective survey of the work when it is brought to a conclusion, and to examine with what fidelity they have fulfilled their engagements, and how far and how equally the various departments of practical medicine have in their turn occupied their attention, it is hardly possible to express the results of this retrospection in words which will not expose them to the charge of being disposed to look back upon their exertions with too much complacency. Yet they may perhaps be allowed to say, that if the reader will take the trouble to inspect the mere titles of the articles contained in these columns, comprehending nearly three hundred original essays of known and distinguished authors, and will bear in mind either the leading physiological divisions of diseases, or consider them with reference to the head, the chest, the abdomen, the surface, or the general condition of the body; as well as the subjects of obstetrical medicine, materia medica, or medical jurisprudence; he will sufficiently appreciate the care bestowed to make the Cyclopædia satisfactory to all who refer to its pages, and at the same time strictly a book of practical reference. No subject, it is believed, immediately practical in its nature or application, has been left out, although unnecessary disquisition has been as much as possible avoided.

"It has consistently entered into their plan to admit of a far wider range of subjects than appears heretofore to have been considered necessary in works professedly written on the practice of medicine, but a range comprising many new subjects of extreme importance to those engaged in practice or preparing for it. Such are the subjects of Abstinence, Acupuncture, Age, Change of Air, Antiphlogistic Regimen, Asphyxia, Auscultation, Bathing, Bloodletting, Morbid States of the Blood, Climate, Cold, Contagion, Convalescence, Counter-irritation, Derivation, Congestion and Determination of Blood, Dietetics, Disinfection, Physical Education, Electricity, Endemic Diseases, Epidemics, Expectoration, Exploration of the Chest and Abdomen, Galvanism, Hereditary Transmission of Disease, Induration, Irritation, Infection, Latent Diseases, Malaria and Miasma, Perforation, Prognosis, Pseudo-morbid Appearances, Pulse, Softening, Medical Statistics, Stethoscope, Sudden Death, Symptomatology, Temperament, Toxicology, Transformations, Transfusion, Tubercle, Ventilation, Mineral Waters; and those of various general articles on the pathology of organs." (P. 4.)

"The Editors will only add, that they have avoided multiplied and artificial divisions, and have aimed at that plainness of arrangement which most facilitates a ready and immediate reference. They have also shunned the fault of encumbering medical literature with new and uncouth terms, always preferring those in common use, and of which the signification was the least doubtful. It has been their constant desire to guard the most inexperienced reader from distraction in the pursuit of practical knowledge, and to assist the more advanced reader in the grouping and generalization of the ideas with which his personal experience may have imbued him." (P. 8.)

ART. IV.—*Von der blutigen Kopfgeschwulst der Neugeborenen.* (*On Sanguineous Tumours of the Head in New-born Children.*) By KARL UNGER, Professor in the Königsberg University, &c. *Beiträge zur Klinik der Chirurgie. Leipzig*, 1833.

Observations on Sanguineous Tumours of the Head which form spontaneously, sometimes denominated Cephalæmatoma, and Abscessus Capitis Sanguineus Neonatorum. By E. GEDDINGS, M.D. Professor of Anatomy and Physiology in the University of Maryland. (*North American Archives. July*, 1835.)

THE existence of sanguineous tumours on the heads of new-born children is extremely common; but we know, from our own observation, that practitioners of moderate experience, and at least average observation, are frequently perplexed as to their nature, and the mode of treatment they require, in consequence of the very brief and imperfect descriptions that are given of the disease by writers,* and judging from the printed reports of lectures, by English teachers of midwifery. The French and German writers have paid more attention to this subject, and it well merits the consideration of the practitioner. We proceed, therefore, to give an abstract of the papers before us, both of which present a good practical account of the disease. Dr. Geddings describes the disease as a soft fluctuating tumour, containing blood, and mostly situated on the right parietal bone. These tumours are frequently mistaken for hernia of the brain, and by many writers have been described under the name of "hernia cerebri," a very different and much more alarming disease. The tumour is generally discovered at birth, but sometimes not for several days after; there is seldom more than one, but sometimes two or more exist, either in communication with each other, or perfectly isolated. They are mostly small, slightly prominent, smooth and soft upon the surface, and circumscribed by well defined borders, which, in the majority of cases, when examined with attention, are found hard and elevated, conveying the sensation of a hard bony edge, surrounding the outline of the tumour, and an intermediate excavation, as if the outer table of the skull had been removed. Sometimes they are more diffused and flattened, and less clearly circumscribed. Zeller and Naegele state, that in a few instances, the hard elevated boundary is either entirely absent, or confined to a portion of the circumference of the tumour. In all cases, when they are properly developed, a distinct fluctuation can be perceived, and by making pressure upon the part, the point of the finger can be brought to bear upon the solid bottom of the cavity. The skin is seldom discoloured, but presents a pale, shining appearance, and generally the part is so little sensible, that considerable pressure gives but slight pain. In some cases the fluctuation is not so distinct: the tumour is soft and spongy to the feel, and its nature is then difficult to detect. The size of the tumour varies: it may either remain stationary or progressively increase. In some rare cases a pulsation can be felt in the part, shewing that the tumour communicates with one or more arteries. The tumour, when opened, is always found to contain blood, which varies, however, in appearance, according to the extent and duration of the disease; the condition of the soft parts and the bone; and the intimacy of the connexion between the cavity of the tumour and the small adjacent blood-vessels. The longer the blood is confined, the more deteriorated it becomes; and if the disease be allowed to continue until the bony structures are involved, it may acquire an offensive odour. Suppuration, too, may take place, and convert the tumour into a purulent abscess. Great difference of opinion exists as to the precise situation of the fluid, and its relations with the component parts of the scalp and the subjacent bone. Dr. Geddings, adopting very nearly the arrangement of Velpeau,* divides sanguineous abscesses, or tumours of the head, into five orders, according to the depth at which the fluid is situated.

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* Burns, for example, our latest and best authority upon such subjects, gives but nine lines to the description of these tumours. Midwifery, eighth Edit. p. 611.

1. *Between the skin and the aponeurosis of the scalp.* In this situation the fluid is superficial, and least apt to become diffused. This is the most simple and the most frequent variety of the disease, and is free from danger. It may easily be confounded with others, which form in consequence of the pressure sustained by the head of the child during labour, or of injury inflicted by the forceps. As the union between the integuments of the scalp and the aponeurosis of the occipito-frontalis muscle is very compact and unyielding, when the blood accumulates in this situation, it diffuses itself with great difficulty. Such tumours are, therefore, generally small, rounded, prominent, convex upon the surface, and surrounded by a well defined, hard, elevated border, as in tumours produced by blows upon the head. As the fluid is not in contact with the bone, these superficial tumours rarely give rise to serious consequences, and may be dispersed by proper discutient applications, or readily cured by evacuating their contents.

2. *Between the aponeurosis of the occipito-frontalis and the pericranium.* The characters of this variety differ from the former. The proximity of the disease to the surface of the bone renders it more hazardous than when it is superficial. As the blood accumulates beneath the aponeurosis, it is resisted by it, in its tendency to protrude towards the surface; but, in the direction of the circumference, it dissects up the loose cellular tissue which unites the aponeurosis to the pericranium, and diffuses itself extensively between the two structures, and over the surface of the head, until its further progress is arrested by a solid barrier,

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* Traité des Accouchemens, t. ii. p. 589.

the indurated border already adverted to, which is set up by the process of adhesive inflammation. Hence such tumours are flatter, more expanded, less prominent than the preceding, and often less clearly defined; for there is not always the hard prominent boundary, or, if it is present, it is confined to a limited portion of the circumference of the swelling, so that the fluid diffuses itself, until it spreads out irregularly over a large extent of the head. The interposition of the aponeurosis renders the fluctuation more obscure, and if the fluid be allowed to remain too long, the pericranium and bone may be injured: caries and exfoliation of the latter may occur, and the case may thus end in the death of the patient. But, as in this variety the pericranium is interposed between the fluid and the bone, the latter does not generally become much affected, except when the tumour has existed a long time, and an early opening is not made to evacuate the blood.

3. *Between the pericranium and the bone.* This is a rare variety of the disease: it is more serious than either of the preceding, from the immediate contact of the fluid with the denuded bone, and the great danger in consequence of necrosis or caries, especially when the fluid is not early absorbed, or when a timely puncture is not made to give exit to it. The injury the bone suffers, varies. Sometimes it is slight, consisting merely of superficial caries and exfoliation; or the outer table becomes necrosed, and is thrown off. The entire thickness of the skull may be detached and the dura mater exposed, but this is a very rare occurrence. Fatal cases of this kind, however, are recorded. It must be difficult, during the life of the patient, to distinguish this variety from the preceding, and fortunately this is not of much consequence as far as the first is concerned: but it may be important to discriminate between this form of bloody tumour, and those which form in the diploë, because it would be unsafe to puncture some of the latter.

4. *Sanguineous tumours of the diploë of the skull.* Dr. Geddings confesses it may be questionable how far bloody tumours in this situation agree in their fundamental characters with those before described. Michaelis* affirms that the outer table of the cranium is always destroyed by necrosis or caries, and that the accumulation of blood beneath the pericranium is the consequence. Chilius remarks, that though apparently situated in the diploë of the bone, these tumours really occupy the space between it and the pericranium, and that what was mistaken for the outer table was the pericranium in a state of ossification. Dr. G. admits the possibility of such a mistake, yet there is incontestible evidence that tumours of the kind do sometimes form in the diploë of the bone, and give rise to all the consequences attributed to them. But the question recurs,—Are they identical in their nature with those which form in the tissues of the scalp, and between them and the bone? Both tend to destroy the bone, both may exist at birth, or form shortly after. Both are filled with blood: but when those of the scalp are laid open, they do not bleed after their contents are discharged, while some of those of the diploë continue to pour out blood so copiously as to endanger or destroy the patient. The organization of the diploë explains, to a certain extent,

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* Dr. G. refers to Loder's Journal, which it may be inconvenient for the English reader to consult. An abstract of Michaelis's opinion is given by Underwood. Vide ninth Edit. by Dr. Marshall Hall, p. 485.—REV.

this striking peculiarity. The reticulated structure between the bones is not only abundantly supplied with arteries, but it is likewise traversed by large veins, which freely anastomose, and form an intricate venous plexus within the bony texture. These vessels communicate freely, by numerous small branches through the two tables of the skull, with the vessels of the scalp, and with those of the meninges, and also with the great sinuses of the latter. Hence it is probable that most of the bloody tumours which form in the diploë, originate in a varicose condition of these veins; that in proportion as the tumour increases in size, the tables of the bones are forced asunder or destroyed; that they are, in short, aneurismal tumours, and therefore pour out blood to a dangerous degree when opened. The great facility with which these veins become distended, the extent to which they may dilate, and the encroachment they must make, when thus affected, upon the tables of the skull, and, after these have been destroyed, upon the scalp, the meninges, and the brain, explain the general phenomena of the disease, and its fatal tendency. Sometimes, when the walls of the cranium are completely perforated, and the tumour attains a considerable size, it assumes all the appearances of congenital hernia cerebri, and may, like that disease, be forced into the cranium by pressure.

5. *Between the cranium and dura mater.* Dr. G. is of opinion that erectile tumours, analogous to those already described, may arise in the space between the cranium and dura mater, and he thinks it probable that many of the cases which have been described as examples of fungus of the dura mater, and congenital hernia cerebri, were instances of such erectile tumours.

The symptoms of constitutional disturbance produced by these tumours will evidently vary, with their duration, size, and relation to the adjacent parts. Dr. G. is inclined to doubt that these tumours are caused by pressure upon the head of the child in the act of labour, but the difficulty of arriving at any satisfactory conclusion upon this point, amidst many conflicting opinions, is admitted.

It is sometimes difficult to distinguish sanguineous tumours from congenital encephalocele, or hernia of the brain, and it is crteain that the two diseases have been very commonly confounded with each other. Both are soft and spongy to the feel, and impart to the touch the sensation of a depression or defect of the corresponding portion of the cranium. Both are often attended with pulsations which are synchronous with those of the heart, and in both there is a hard, well defined border: thus far they agree; but distinctions exist between them. When pressure is made on a hernia cerebri the tumour can be forced down upon the brain through the opening in the cranium, but when the pressure is made, vertigo, dimness of vision, loss of consciousness, or even convulsions will arise. Sanguineous tumours will not disappear on pressure, nor does pressure on them usually give rise to any such symptoms. If, too, pressure is made upon a hernia cerebri, no resistance is felt by the finger, while in sanguineous tumours it is soon arrested by the rough surface of the bone. Although pulsation is a character common to both affections, it is feeble in sanguineous tumours, and is only present during the earliest periods of their existence. In hernia cerebri the pulsation is stronger, and never entirely disappears.

Treatment. Experience proves that the great majority of these sanguineous tumours will disappear spontaneously, or that they may be dispersed by proper treatment: puncture or incision is therefore rarely necessary. Even if the tumour is of a very large size, it may be sometimes dispersed by any of the ordinary evaporating lotions. Leeches are sometimes required. Mercurial frictions, as recommended by Dieffenbach, can seldom or never be admissible. Pressure upon the tumour is rarely useful or safe. It is difficult to determine how far the treatment can be confided to these means, as in some cases the disease has been allowed to continue for weeks or months without mischief; while in others the cranium has been affected with necrosis or caries in a short time. Much injury, then, may sometimes result from relying too long upon discutient applications, and neglecting to let out the fluid by puncture. In order not to incur any risk it will be advisable, after the ordinary local remedies have been applied in vain for eight, ten, or fourteen days, to puncture the tumour, and evacuate its contents: upon this point there is no difference of opinion. Various modes have been practised of opening the tumour; e. g. by a seton, caustic, free incisions, and puncture. The last is unquestionably the best, the puncture being of sufficient size to admit the free exit of the fluid. When the contents of the tumour have been evacuated, a probe should be introduced through the orifice, to ascertain the state of the bone. If the bone is healthy, a small piece of lint should be introduced into the puncture, to prevent it from closing until the fluid ceases to accumulate within. But if the bone be denuded, rough and carious, the tumour should be freely laid open, and the wound dressed with digestive ointment. It generally happens that the fluid accumulates after its first evacuation; the tent of lint should then be withdrawn, to allow the fluid to escape, and if adhesions have formed to such an extent as to prevent it from flowing, they may be broken up with a probe. After the puncture, the part will require different treatment, according to its condition. It has been proposed, when the parts are very indolent, to throw stimulating injections into the cavity, to excite adhesive inflammation. Cases may occur to demand this practice, but it must be employed with great caution. The prognosis is generally favourable, except when the disease has been allowed, by too long delay, to destroy the cranial bones. Most writers represent the opening of these tumours to be perfectly free from danger: such an opinion is erroneous, for Goelis, Braun, Steuart, &c., have related instances which terminated fatally after being punctured, although the bone was not diseased. We can do but little for those tumours which sometimes form within the diploë, or within the cranium: fatal hemorrhage would probably ensue if they were opened, but if the inner table of the skull is entire, and if we could positively distinguish them from other tumours, an opening might be made, and if alarming hemorrhage should follow, it might be commanded by a graduated compress. The enlarged vessels would then become obliterated, and the cavity would heal up by granulation.

Such is the substance of the excellent practical lesson given by Dr. Geddings upon this hitherto neglected disease by English writers. It is an excellent summary of all that is known upon the subject, and the merely English reader would seek in vain for the information it conveys, in any work to which he could have access.

Professor Unger's paper is very brief, and may be briefly dismissed. It consists principally of the relation of four cases, which are detailed with even more than ordinary German minuteness. He does not enter into a general description of the different varieties of these tumours, as he presumes that every German reader is well acquainted with them. He considers the diagnosis of the different species difficult, and often impossible. In one case which he saw, exfoliation of the external table of the skull took place, but healthy granulations formed, and the child recovered. Two other cases terminated fatally, from total destruction of the bones and inflammation of the brain, as it was presumed, for examination post mortem was not permitted. Experience has taught M. Unger that the situation of the fluid in the tumour may generally be determined by attention to the following points. The more diffused and the less fluctuating the tumour, the greater the probability of the fluid being under the aponeurosis of the occipito-frontalis muscle. On the contrary, the prominence of the swelling, with well defined and evident hard edges, leads to the conclusion that the fluid is under the pericranium, for the yielding aponeurosis offers less opposition to the diffusion of the blood than the closely adherent pericranium. He places but little confidence in the pulsation of the tumour, which is regarded by many writers as a pathognomonic sign of the presence of fluid under the pericranium, for he has only remarked it during the process of suppuration. He agrees with Dr. Geddings, that disease of the bone is by no means a constant accompaniment of the tumour, and that when it is present, it is very generally an accidental complication. The cause of the swelling he attributes, with Naegele, to an original disease of the veins, and his opinion is confirmed by his having seen the bloody tumour of the head complicated with nævus.*

We have seen many cases of these sanguineous tumours on the heads of new-born children, and upon some few points we differ from Dr. Geddings. We believe, with Velpeau,† that pressure on the head, during labour, is the ordinary cause of these tumours. We have generally seen them after difficult and protracted labours, in which the head of the child has borne long and severe pressure. That they are seen, occasionally, after easy and natural labours, we do not deny, but presuming, as we do, that M. Unger is correct in his idea of the pathological character of the disease, it is easy to suppose that a sanguineous tumour might form on the head, or any other part of the body, when the veins were diseased, from even the slight pressure of a very favourable labour. We do not remember a single case in which there was a "distinct fluctuation" in the tumour, at any period of its progress. The sensation imparted to our touch, was that of a doughy, spongy substance: and it has seldom happened that we could, by any pressure we could justifiably apply, bring the point of the finger to bear upon the solid bottom of the cavity. We will not deny that the common varieties of these tumours may lead to destruction of the bones of the cranium, like the very rare form in which the effused blood is contained between the tables of the bones, but we believe such a circumstance to be so very uncommon as very rarely to require our puncturing the tumour. Time and patience, and evaporating lotions, which are perhaps employed more to keep up the appearance of doing something, than because they are absolutely necessary, is all that is required in the great majority of such cases. But while we impress this general rule, we would caution the young practitioner especially, to profit by the remarks of Dr. Geddings, and not forget the exceptions to it.

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* In an interesting paper, "von den Muttermälern des Kopfes," in the same work, M. Unger states it as his belief that the nævus, termed by us aneurism by anastomosis, always depends upon a preternatural weakness and expansion of the parietes of the veins of the part. He does not admit that the arterial branches are affected. Upon this subject there is still some doubt; but we have arrived at the same conclusion as M. Unger, not merely from observing the appearance of the disease, but after having carefully injected and dissected several specimens of bloody nævus, the "tumeurs variqueuses" of Boyer, or the "tumeurs érectiles" of Dupuytren. Rev.

† Accouchemens, t. ii. p. 595. Second Edition.

ART. V.—*The Clinique Médicale; or, Reports of Medical Cases:* by G. ANDRAL. *Condensed and translated, with Observations extracted from the Writings of the most distinguished Medical Authors.* By D. SPILLAN, M.D. Part I.-II.-III. pp. 608. *London,* 1835. 8vo.

IT will not be expected from us, after the lapse of a dozen years since the publication of the greater part of the work of Andral, that we should now enter upon any review or criticism of it. The work, in fact, has long since assumed the station in medical literature and in the estimation of all intelligent members of the profession, which it is for ever destined to occupy. "The merits of the original work," (to use the words of the advertisement to the present translation,) "are so universally acknowledged, and its character is so well established, as forming an era in the history of medical pathology, that it is altogether unnecessary to say anything regarding it in the way of eulogy. It contains a series of select cases, and observations eminently suited to illustrate the history and nature of those diseases which are of most frequent occurrence in the department of *internal pathology*. The manner in which these cases are arranged, and the mode in which the facts furnished by them are generalised, entitle it to rank as a *complete system of clinical instruction.*"

Entertaining opinions scarcely less strong of the great merits of this work, it was with sincere pleasure that we saw a translation of it announced; and although, after examination, we cannot give unqualified praise to the English version now before us, either as a literary performance, or as a rigidly accurate transcript of the original, we are bound to acknowledge that it constitutes an important addition to the stock of English medical literature, and that the student in particular, who may be ignorant of the language in which it was written, or to whom the expense and bulk of the original were obstacles to its possession, is under great obligations to Dr. Spillan for the valuable and acceptable offering which he has here presented to him.

The external or mechanical qualities of the English version are most exemplary. The paper is remarkably good, the print—although somewhat of the smallest to delight the eyes of old critics, singularly clear and beautiful; the whole aspect of the work agreeable and elegant, and last, not least, the volume, its immense mass of matter being considered, is marvellously cheap. We therefore earnestly recommend all our young friends, who wish to know what is most excellent in the modern pathology of France, to lose no time in adding the Translation of the Clinique of Andral to their stock of medical authors and authorities. And we do this advisedly: we have already hinted our want of entire satisfaction with the work of Dr. Spillan, but its blemishes are rarely such as are likely to mislead the student, while it must be regarded, on the whole, as giving a faithful transcript of all the facts and inferences of the author. The faults of his translation are indeed more of a literary than professional kind, although occasionally he has sinned even against scientific fidelity.

Regarded as a whole the translation certainly cannot be called even very good; it has no pretensions to elegance; it savours too much by far of the "done into English" of the olden days of translation. It is by far too literal, and consequently, even in its new style, still too *French*. It is impossible to read a page—nay, hardly a paragraph—without knowing that you are reading a translation, and even a French translation; the awkward outlandish phrases constantly suggesting the well-known terms and phrases of the original. It is in vain that the Frenchman has been drilled into the correct employment of English words, his accent and the collocation of his words betray him at once; through the complete disguise of the national costume you detect the foreigner by the peculiarity of his gestures. This is the more to be lamented because the translator might certainly, with very little additional trouble, have eschewed the chief of these blemishes. If in place of at once and finally setting down the literal version of the words and of the exact turn of the style of the original, he had taken the trouble to consider for a moment whether they *sounded* or *looked* like genuine English; and where anything markedly foreign existed, had retranslated this into words having the same meaning, but a more native character, he would have produced a work much more creditable to himself and more agreeable to the reader of taste. We suspect the main source of his defects to be want of time; as we are certain, from the very good—nay, felicitous manner in which many passages are rendered, that he is very capable of giving a good translation of his author. He probably began his task without due consideration of its importance, or of the necessity for executing it with such a degree of precision as we conceive it ought to claim; and possibly the printer and publisher were more regardful of the value of time than of the translator's credit.

For all the inelegancies of the work now before us, the translator, however, is not responsible; unless, indeed, it be the duty of a translator to correct the inelegancies of his original. Andral is certainly a careless writer, and the present work, in particular, is full of repetitions, of sentences awkwardly arranged, and of phrases far from elegant, or even accurate, in a logical sense of the word. We conclude this notice with a few faulty passages which we have taken at random, as we dipped here and there into the work. When particularly struck with a turn of expression, or phrase, or word which seemed to us odd or wrong, we referred to the original, and generally found our suspicions of inelegance or inaccuracy confirmed.

Among the constantly recurring awkward expressions in the translation are the words "in fine" for the original "enfin." The word "precordial" very accurately and very properly means, both in the French and English, "anterior to the heart;" but it is liable to be mistaken in our language, from the circumstance of *precordia* being almost constantly used in medical language, in the old sense of *epigastrium;* yet it is generally used in the other, or French sense, by Dr. Spillan. We might mention several other faulty expressions of frequent occurrence; but we proceed to notice a few out of the many blemishes which struck us in opening at random the pages of the Second Part, on the Diseases of the Chest.

P. 240. "*A great number of contractions* of the different orifices of the heart *recognise for their commencement* an acute or chronic inflammation," &c. This is certainly a literal translation of "Un grand nombre de rétrécissemens des differens orifices du cœur reconnaissent pour point du départ une inflammation," &c. but it is unquestionably not English.

P. 260. "But the blood, after escaping from its vessels, is merely accumulated and coagulated in this place, whilst at other times it was carried out according as it was deposited," &c. This is an incorrect version of the original "Mais seulement *en cet endroit* le sang, sorti de ses vaisseaux, s'est accumulé et coagulé, tandis *qu'ailleurs* il a été porté au dehors," &c. It is evident as well from the context as the obvious sense of the words, that *ailleurs* here applies to *other parts of the bronchi*, and ought to have been rendered *elsewhere,* with the verb in another tense.

P. 319. "Sputa *red*, transparent, viscid, still *detached* from the vessel by inclining it." This is a very bad translation of the original "Crachats *rouillés*, transparens, visqueuse, *se detachant* encore du vase lorsqu' on l'encline:" *rouillés* signifies *rusty-coloured,* or at most *reddish;* "still detached from" is, to make the best of it, a very awkward expression. In the same page we have the phrase "the blood drawn in the night was *formed by a clot*," &c.; and this is one of the instances where the original author may be criticised as well as the translator, as the expression "le sang etait formé" seems not more accurate than its literal rendering in English. Still it must be admitted that such a mode of expression is common in France, but certainly not in England. Again in the same page we have the expression "he complained of a smothering," which, to say the least of it, is an inelegant rendering of the original phrase, "il se plaignait d'etouffer et invoquait la mort."

P. 360. "The intelligence again restored;" although a literal translation of the original "l'intelligence avait reprit toute sa netteté," is not English; nor is "torrent of the circulation," "seroso-purulent;" "he could lie down in all positions," "tubercles, commencing to soften, existed," &c.; "the crepitation becomes so little," "pains which ran through the different articulations;" "respiratory tree," &c., and many others of a like kind that meet the eye in every page.

P. 286. "We found in fact," "nous retrouvons," should of course be in the present time, "we find." And in page 320, "S'il y avait eu hépatisation, un son mat aurait existé," is translated "if *there were hepatization*, the sound would have been dull:" it should be "if there had been."

These blemishes, taken individually, may appear slight; but when multiplied, they detract not a little from the merit of a work.

We trust the translator will receive our criticisms in good part, and will take more pains with any other work which he may think of transplanting from a foreign to his native soil. He ought to recollect that the great value of the materials does not justify a slovenly architecture, but, on the contrary, renders its defects more intolerable. No doubt, the intrinsic merits of Andral's work will render it a permanent favourite with the public; and we seriously counsel Dr. Spillan to go over his translation once more, and carefully, from beginning to end; and, having corrected the numerous defects and inelegancies which his own taste will point out to him, in despite of the obstacle of *Stereotype*, announced on his covers, reproduce, in a new edition, when the present is expended, a work more worthy of the great original, and more beseeming his own character as a scholar and physician.

Art. VI.—*Natur und Kunst in heilung der Krankheiten: ein Leitfaden für angehende Aerzte.* Von Dr. Johann Jacob Günther, Königl. Preussischem und herzogl. Nassauischem Medicinalrathe, u. s. f. *Frankfurt am Main.* 1834.

Nature and Art in curing Diseases: a Guide for young Physicians. By Dr. J. J. Günther, *Frankfort on the Maine.* 1834. Small 8vo. Pp. 229.

This little work is a short view of the theory of medicine, considered under two heads; the one being an account of the healing powers of nature, the other of art. In treating of the vis medicatrix naturæ, our author subdivides it into two kinds, each of which is treated in a separate section; the one, where the salutary influence is quite independent of the patient's will or feelings, as when a fit of apoplexy is warded off or relieved by epistaxis or hemorrhoids; the other where the cure depends on the imagination or strong will of the sick man. Kant, the metaphysician, wrote a treatise on this last point, entitled, "On the power of the mind in becoming master of its morbid sensations, by the force of resolution alone;" in which he relates his own case, as follows. He was subject to a cough, which tormented him at night, caused by the irritation of the inspired air upon the larynx; and this he quelled by strongly directing his attention to some other object. The expiration of the air was thus stopped, and he felt the rush of blood into his face, which caused a flow of saliva; and a new irritation being thus substituted for the former one, the moisture was swallowed, and the cough ceased. "This operation of the mind (adds Kant) requires firm resolution in a very high degree, but, on that very account, is the more beneficial. The following passage, taken from the section on the unassisted powers of nature, may serve to show the good sense of Dr. Günther, as well as the even tenor of his style. After speaking of the instinct which leads animals to avoid dangerous things and places, to clear away unwholesome dirt, to lick their wounds, and even to seek out herbs against disease, he adds:

> "Nor is this instinct entirely wanting in man, and it is especially beneficial in disease. Thus, those who are suffering from bilious or putrid fevers, avoid all animal food, the very sight of which causes disgust and vomiting; but, on the other hand, they have a great relish for vegetable and acid food, or rather drink. When great debility comes on, they wish for wine, which, under these circumstances, is to be preferred to all other tonics, particularly when the disease has lasted long, the voice is weak or lost, the tongue moist, and the patient not suffering from violent thirst.

When it would be pernicious, far from desiring, they dislike it. In typhus fever patients long for cold water and fresh air; neither should these, nor other things be denied them, for which they express an extreme desire, unless they are strongly contra-indicated. They are generally things which the patients relish but little in their healthy state; and, vice versâ, what pleased them most when well, is now disliked; their return to health being marked by a return to their old tastes.

"If the patient is about to experience a critical sweat, he feels a disagreeable rigor, extending over his whole body, at the slightest touch of fresh air, against which he tries to guard himself in every possible way.

"Clerc tells us that a patient labouring under general anasarca, was very desirous to have some of the St. John's bread (the Siliqua dulcis). At first he ate but little; the urine flowed more frequently; he ate again, and the quantity of urine increased from day to day, so that in a short time the swelling had entirely disappeared." P. 92-4.

The second division of the work, which treats of the value of the art of healing, is divided into two sections: one being on diseases in general, and their nature, with considerations on the difficulties lying in the way of obtaining correct experience; the second being a nearer view of the art of healing, with an attempt at forming a *catharticon* of it. The book concludes with some remarks on the formation of an Academy of Practical Medicine.

A large part of this division is taken up with an account of the symptoms of acute and chronic diseases, considered generally; and with a history of medicine, from the first dawn in Egypt, down to Broussais and Hahnemann. Dr. Günther's estimate of homœopathy is candid and judicious, his main conclusion being that homœopathy is another name for the method of treating diseases by expectation.

Dr. Günther thinks that the following are the principal obstructions to the improvement of medicine:

1. Too great an esteem for the ancients, or too great a depreciation of them.

2. Too great a preference for certain authors, and too anxious an endeavour to accommodate our observations to their system.

3. Too great a preference for particular remedies.

4. The proclivity of mankind to look upon things chiefly with reference to themselves. Thus, Baglivi complains, that physicians of a cold and melancholy temperament prescribe nothing but refrigerants, while the man of hot and acrid humours has an almost exclusive predilection for aromatic and spirituous remedies.

Dr. Günther proposes that the Medical Academy should consist of two divisions: the philosophical one to be made up of members whose duty would be to revise what has been written on medicine, and separate the wheat from the chaff; the practical one to be devoted to the investigation of disease by the treatment of cases. He thinks, and with great justice, that such an institution would do more for the improvement of physic in a few years, than ten times the period spent in the hurry of ordinary or even of hospital practice; where the wood, says our author, can often not be seen for the trees. It is to be observed, that each member of the practical department is to be confined to the treatment of some few diseases. The obvious difficulty would be to find members for the Academy. Dr. Günther's little work shows him to be a man of reading, as well as a practical physician; but it is liable to a reproach which is seldom alleged against German books, namely, that of being too short; for though the signatures are those of an octavo, the pages are very small, and the book is a pocket volume.

It is remarkable that our author, though he discusses the qualities of the urine at considerable length, and quotes numerous authors, does not mention the name of Prout. So difficult is it for the most industrious author to keep on a level with the knowledge of the age, and so slow is discovery in progressing from one country to another.

ART. VII.—*A Therapeutic Arrangement and Syllabus of Materia Medica.* By JAMES JOHNSTONE, M.D., Fellow of the College of Physicians, and Physician to the General Hospital, Birmingham. *London*, 1835. Small 8vo. pp. 84.

IN the first part of this work the substances used in medicine are arranged according to their therapeutic action; in the second part those derived from the animal and vegetable kingdoms are arranged respectively according to the systems of Cuvier and Jussieu, and the minerals are given in alphabetical order. A posological table is annexed, containing about 400 drugs or officinal preparations, with their doses, which is drawn up with remarkable accuracy. The following extracts may give our readers some notion of the manner of this succinct but comprehensive manual.

"CLASS IV. ORDER 1.—NARCOTICS.

Aconitum.
Belladonna.
Conium.
Humulus.
Lupulina.
Hyoscyamus.
Camphora.
Lauri baccæ.
Lactucæ extractum.
Lactucarium.
Opium.
Morphia.
Narcotia.
Stramonium." p. 10.

"SCROFULARIÆ. DIGITALIS PURPUREA.—THE PURPLE FOXGLOVE.
LINN. Class *Didynamia;* Order *Angiospermia.*

Officinal.—Digitalis folia, Foxglove leaves.

Analysis.—Extractive; green oil; *digitaline;* salts.

Medicinal properties.—Sedative and diuretic.

Digitalis is a narcotico-acrid poison. When this medicine has been taken for several days, even in moderate doses, it frequently excites nausea, vomiting, giddiness, want of sleep, sense of heat throughout the body, and all external objects assume a green appearance; general depression, sometimes salivation, diarrhœa, or convulsions. The pulse is always feeble, and frequently intermits. When a single large dose of digitalis has been given, vomiting, purging, depression of the pulse, dilatation of the pupils, faintness, cold sweats, swelling of the face, and convulsions or coma are usually the consequence.

Post mortem appearances.—The membranes of the brain injected with blood; the mucous coat of the stomach of a red colour." p. 35.

"Pulvis aloes compositus . .	gr. v. to gr. xv.
Pulvis antimonialis . . .	gr. j. to gr. vij.
Pulvis cinnamomi compositus .	gr. v. to gr. x.
Pulvis contrajervæ compositus .	gr. x. to ʒss.
Pulvis cornu usti cum opio . .	gr. v. to ℈ss.
Pulvis cretæ compositus . .	gr. xv. to ʒss.
Pulvis cretæ comp. cum opio .	gr. x. ℈j.
Pulvis ipecacuanhæ compositus .	gr. v. to gr. xv.
Pulvis kino compositus . .	gr. v. to ℈j.
Pulvis scammoniæ compositus .	gr. v. to gr. xv.
Pulvis sennæ compositus . .	℈j. to ʒj.
Pulvis tragacanthæ compositus .	gr. x. to ʒss." p. 81.

This book cannot but be particularly useful to those who intend to lecture or write upon the Materia Medica; as well as to the students for whose particular use it is prepared.

Art. VIII.—*De l'Influence des Professions sur la Durée de la Vie. Recherches Statistiques.* Par Le Dr. H. C. Lombard, Médecin de l'Hôpital Civil et Militaire, de Genève. *Genève.* 4to. pp. 44. 1835.

Dr. H. C. Lombard, of Geneva, has recently examined the influence of different professions on the duration of life; and as it is the first time that this important question has been treated to any extent, on statistical data, we shall present an abstract of the most interesting results Dr. Lombard's industry has enabled him to collect. His investigation embraces the deaths of 8488 males, aged sixteen years and upwards, whose ages and professions are recorded in the Mortuary Registers of Geneva, between the years 1796 and 1830. These 8488 persons lived, on an average, fifty-five years, which were assumed as a mean term; and according as the mean age at the death of those attached to any profession, exceeded or fell short of this term, the profession in question was adjudged favourable or unfavourable to longevity.

Geneva is a small city, of 26,000 inhabitants; and the number of deaths, in many of the professions examined by Dr. L., was too small to furnish satisfactorily the mean age (*vie moyenne*) of each; hence all professions in which at least forty deaths were not recorded, are excluded from the first Table.

Table i.—*Presenting the Mean Age, at Death, of* 6338 *Males, distributed in 42 different Professions.*

Number of Deaths.	Professions.	Average Age.
71	Magistrates	69·1
275	Persons with a fixed Income, *(Rentiers)*	65·8
52	Protestant Clergymen	63·8
80	Retired Officers	63·6
476	Merchants	62·0
67	Clerks in Public Offices	61·9
152	Goldsmiths	61·6
41	Weavers	60·5
202	Gardeners	60·1
47	Founders	59·4
40	Criers, &c.	59·1
152	Different Tradesmen	59·0
99	Wood-cutters	58·8
94	Hair-dressers	57·5
120	Tavern-keepers	56·3
1073	Watch-makers	55·3
124	Masons	55·2
43	Tanners	55·2
176	Carpenters	55·1
117	Spring-makers	54·8
267	Agriculturists	54·7
179	Engravers	54·7
63	Farriers, Blacksmiths	54·5
41	Printers	54·3
376	Shoemakers	54·2
247	Tailors	54·2
97	Coopers	54·2
41	Surgeons, Apothecaries	54·0
77	Butchers	53·0
171	Day-labourers	52·4
48	Porters	52·3
370	Watch-box makers	52·2
125	Calico-printers	52·1
78	Carriers	51·4
46	Writers, Writing-masters	51·0
82	Bakers	49·8
143	Joiners & Cabinet-makers	49·7
138	Jewellers	49·6
46	Boatmen	49·2
75	Enamellers	48·7
62	Locksmiths	47·2
65	Painters, Varnishers	44·3

We proceed to give Dr. Lombard's comments on these and other numerical facts which appear to us of most importance in his memoir, or for which the data were most adequate; reserving the few remarks we have to offer to the end.

From this table (I,) it may be inferred that the duration of life varies among different classes of the general population; in the first rank are found men who, on an average, attain the seventieth year; others do not survive the forty-fifth year: or, to express the fact more generally, according to the circumstances in which certain classes of the same population are placed, their lives may be extended or abridged more than one third. Mr. Finlaison deduced, from his calculations, that the duration of life was the same in all classes who insure their lives, and that in this respect, it was of little importance whether a man was robust or delicate, provided he could save a sufficient sum to pay annually to an insurance office. If it were necessary to combat such a paradox by figures, the preceding table, demonstrating the variations of longevity in different professions, would furnish a victorious reply to the arithmetician cited. On examining the table (I,) the class of persons on whose life property is sunk is seen not to be indifferent; in selecting a magistrate or a clergyman, instead of a writing-master or an author, each belonging to the class of liberal professions, the chance of obtaining a long annuity would be greatly augmented. But it is not enough to establish on positive documents the influence of professions on the duration of life; we must endeavour to ascertain to what causes such a result is referrible.

The principal circumstances which Dr. L. thought worthy of investigation, were: the *influence of riches and of poverty;* of a *liberal education; of certain circumstances which shorten existence by developing phthisis;* and *finally, of accidents to which some workmen are exposed.*

Influence of Riches on the Duration of Life.—In some professions, a certain degree of affluence is enjoyed; in others, on the contrary, the gains and salaries are so low as to keep the workmen in a constant state of poverty; and between these extremes there is a middle class,* neither oppressed by poverty, nor saturated with riches. Hence all professions may be divided into three classes: the rich and liberal; the middle; and the poor, comprehending labourers, workmen, and the most abject operatives. The application of this classification is necessarily somewhat arbitrary, but Dr. L.'s practical acquaintance with the Genevese population enabled him to obviate the difficulties left by theory; for example, he placed some professions, such as drapers, money brokers, &c., apparently belonging to the middle class, in the first; as these persons in Geneva are ordinarily wealthy.

The mean age at death (*vie moyenne,*) of each of these classes, also the mean age in each class of those below, and of those professions in which the mean age surpassed fifty-five years, was as follows.

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* These classes, in the small republic of Geneva, do not, as the reader will conjecture, exactly correspond to the three classes into which English society is ordinarily divided.

Table ii.—Professions *classed according to their* Riches.

	Mean Age at Death.
FIRST CLASS.	
Liberal Professions; —Men in easy circumstances -	61·0
Having a mean age above 55;—Magistrates, Physicians, &c. -	62·2
Having a mean age below 55;—Surgeons, Literary men, &c. &c.	52·6
SECOND CLASS.	
The Middle Classes;—Tradesmen - -	56·4
Mean age above 55;—Watchmakers, Grocers, Carpenters, &c. &c.	60·7
Mean age below 55;—Tailors, Bakers, Coopers, &c. &c. -	50·5
THIRD CLASS.	
The Poor;—Labourers, Workmen - -	53·6
Mean age above 55;—Wood-cutters, &c.; Grooms, Scavengers, &c.	57·8
Mean age below 55;—Carriers, &c.; Male Servants, &c. -	49·6

A comparison of the three classes in this table establishes one common fact, namely, the influence of riches and knowledge in prolonging life; the rich, on an average, live seven years and a half longer than the poor; so that the station in which a man happens to be born in Geneva may shorten or prolong his life nearly eight years. The difference between the upper and the middle classes is 4·6 years, and between the middle and the lower classes only 2·8 years.

It may then be admitted, that affluence exercises considerable influence on the duration of life. Some years ago, Dr. Villermé arrived at the same conclusion, by an entirely different method, applied to another population; he shewed, that in the several quarters of Paris, the mortality augmented in proportion to the poverty and wretchedness,—that as these prevailed life was shortened.

On enquiring how affluence prolongs life, we discover two kinds of influences, which react on each other. The first, entirely physical, is the diminution of bodily suffering by a sufficient supply of food, and by the protection afforded against all atmospheric severities; the other, derived from a liberal education, excludes gross excesses, induces men to lead a life more conformable to the laws of Hygiène, and more especially to take proper care of themselves in derangements of health.

Mr. Madden, an English writer, from a comparison of the ages learned men attained, has inferred that the study of the arts and sciences is remarkably favourable to longevity; he found, from a certain number of cases, that natural historians lived, on an average, 75 years; philosophers, 70 years; painters and sculptors, 70 years; lawyers, 69 years; physicians, 68 years; divines, 67 years; philologists, 66 years; musicians, 64 years; novel writers, 62½ years; dramatists, 62; writers on natural religion, 62; and poets only 57 years. It is probable that this scale of longevity is considerably affected by the degree of difficulty in obtaining a reputation sufficient to carry a writer down to posterity in the several departments of science, art, and literature. A naturalist, a philosopher, or a lawyer, cannot so easily win celebrity as a novel writer, a musician, or a poet.

In the professions that follow, shewing the influence of deleterious vapours, of dust in the workshops, and of accidents to which artisans are exposed, some are included in which the number of deaths did not exceed seven or eight; in these cases greater attention must be paid to the mean of the class than to each individual group.

TABLE III.—*Shewing the Mean Longevity in* PROFESSIONS *exposed to the Action of* VAPOURS.

Professions.	Mean Age.	Professions.	Mean Age.
Hatters	50·9	Varnishers	44·3
Gilders	51·7	Tinmen	45·6
Painters in design	57·5	Locksmiths	47·2
Enamellers	48·7	Blacksmiths	54·5
Founders	59·4		
		Mean age at death	51·1
		Mean age of their Class	56·0

From this table it appears, that workmen exposed to the inhalation of mineral and vegetable vapours, only attain a mean age of fifty-one years, five years under the mean age (fifty-six,) of the middle class, to which they appertain.

The professions in the next table respire an atmosphere more or less impregnated with suspended particles of a mineral, vegetable, or animal nature.

TABLE IV.—PROFESSIONS *exposed to the Action of* PARTICLES *suspended in the Atmosphere; namely, to*

1. MINERAL PARTICLES.

	Mean Age.		Mean Age.		Mean Age.
Pavers	58·2	Polishers	53·7	Plasterers	45·5
Dustmen	56·0	Sculptors	36·3	Terrace-makers	58·0
Cutlers	57·0	Stonecutters	34·4		
Pinmakers	65·4	Masons	55·2	Mean age at death	52·0

2. VEGETABLE PARTICLES.

Millers	42·0	Hair-dressers	57·5	Coal-measurers	59·1
Bakers	49·8	Coalmen	55·1	Chimney-sweepers	45·0
				Mean age at death	51·4

3. ANIMAL PARTICLES.

Hatters	50·9	Skinners	70·0	Harness-makers	60·4
Upholsterers	53·0	Brushmakers	50·1	Mattress-makers	60·3
				Mean age at death	57·5

The mean age of workmen respiring in a dusty atmosphere is fifty-three years and a half; it is longer in men exposed to animal particles in suspension than in the rest of the group; a result different from that obtained in Dr. L.'s researches on phthisis, which is most frequent in workmen inhaling animal and mineral particles. When the foreign bodies in the atmosphere are in the state of vapour, they are more readily absorbed by the mucous membrane of the lungs, and appear to act more fatally on the economy than the finest powders; the relation of the two deleterious causes is as 53·5 to 51.

Influence of a Sedentary Life.—Workmen who lead an active life, and regularly exercise their muscular powers, are placed in hygienic circumstances very different from those who are habitually shut up in workrooms or factories, where their muscles remain comparatively inactive. To determine the influence of exercise on longevity, we are compelled to pass over the third class of labourers who, by a sort of compensation, pursue their unthrifty occupations in the open air: the first two classes, separated into sedentary and active professions, alone present comparable results.

TABLE V.—*Influence of a* SEDENTARY *and an* ACTIVE *Life on Longevity.*

	Mean Age.
FIRST CLASS.	
Liberal Professions;—Men in easy circumstances.	
1. *Sedentary Professions.*	
Druggists, Clerks, Schoolmasters, Solicitors, Literary Men, &c.	58·5
2. *Active Professions.*	
State Functionaries, Physicians, Surgeons, and Brokers -	60·1
SECOND CLASS.	
The Middle Classes;—Tradespeople.	
1. *Sedentary Professions.*	
Confectioners, Watchmakers, Engravers, Sculptors, &c. -	55·1
2. *Active Professions.*	
Carpenters, Gardeners, Butchers, Bakers, &c. - -	56·3

A comparison of both classes leads to the conclusion, that existence is shortened by a sedentary life; in the first case 1·6, in the second 1·2;—nearly a year and a half. A sedentary life is injurious then; but only to a very limited extent.

Accidents and Suicide.—Circumstances by which men are exposed to fatal accidents, or prompted to self-destruction, are so inherent in some professions, as to merit consideration under this head.

TABLE VI.—*Frequency of* SUICIDES *in different Professions.*

	Suicides.	Total Deaths.
First Class;—Persons in easy circumstances - -	10	328
Second Class;—Tradespeople - - - -	40	981
Third Class;—Artisans and Labourers - -	7	276
	57	1585

Proportion of Suicides.

First Class	1 in 33	1 Suicide in 27·8 Deaths.
Second Class	1 in 25	
Third Class	1 in 39	

The proportion of suicides is greatest in the middle class; least among the poor. So far as Dr. L.'s researches extend, it may be inferred that in Geneva it is not the poor, but the middle classes, who are most exposed to vicissitudes of fortune, that, when their resources are unexpectedly cut off, resort in despair to suicide.

With regard to deaths from violence, or fatal accidents, 352 in 8488 deaths are recorded (1 in 24), but this must not be taken for the mean of Geneva, as the table includes a period of civil convulsion. If the accidental deaths are deducted, the mean age of the rest at death will be 55·9 years; consequently, the mean age of the entire population is not abridged quite one year by accidents. In some professions, nevertheless, life is considerably curtailed by violent deaths; for instance, coachmen and carriers, if accidents were deducted, would live to a mean age of 56·5 instead of 48·2 years.

Table vii.—*The Proportion of Deaths from* Accidents, *in eight Professions*.

Professions.	Violent deaths.	Total deaths.	Proportion of violent deaths.	Vie moyenne.	Vie moyenne, after deducting violent deaths.
Butchers - -	3	77	1 in 25	53·0	53·1
Boatmen -	6	46	1 „ 8	49·2	51·3
Carpenters - -	12	176	1 „ 15	55·1	55·7
Slaters - -	7	26	1 „ 4	47·7	48·8
Coachmen - -	7	90	1 „ 13	48·2	56·3
Tinmen -	4	39	1 „ 10	45·6	47·0
Masons - -	12	124	1 „ 10	55·2	55·6
Emménageurs - (House-furnishers, Brokers, or Upholsterers)	7	52	1 „ 7	60·0	59·1
	58	630	1 in 11	51·4	53·7

These classes of men would have lived, on an average, two years longer but for accidents, by which one in eleven of them perished.

In fine, the influences of professions may be arranged in two classes.

1st. Those favourable to life:

Affluence - - -	7·5 years.
Exercise - - -	1·4

2d. Those unfavourable to life:

Poverty - - -	7·5
Mineral and Vegetable Vapours -	4·9
Particles suspended in the Atmosphere	2·5
Total Accidents - -	2·3
Sedentary Life - - -	1·4

In the above abstract, we have endeavoured to condense the results of Dr. Lombard's extensive, novel, and valuable investigation; but we cannot entirely admit, with that ingenious statistician, either the facility of recognizing the influence of professions on the general mortality, or that the extent of that influence has yet been indubitably discovered. For the mortality of a profession, or of any class, is only accurately expressed by the *relation* of the number *dying* to the *living* at all ages in a given time: and no attempt has hitherto been made in Geneva, or elsewhere, to determine the numbers or the ages of the *living* and the *dying* in any one profession; indeed such an undertaking, on a comprehensive scale, would be attended with the utmost difficulty, as was experienced in the last census, when parliament only attempted to ascertain the total number of persons attached to each profession in this country. No doubt the mean age at death of persons in different professions, deserves, on this account, our serious attention; it furnishes an approximation to the truth; and where the professions compared are stationary, or are annually recruited at the same rate, the individuals of 20, 30, 50, 60, &c. years of age remaining nearly in the same proportion, the result would not deviate much from that furnished by the other method. But if from any cause a particular profession is flourishing and increasing,[*] the number of *young men* will be disproportionably greater than that of old men living, and looking only at the mortuary register, or only taking the mean of the ages at death, the longevity would be apparently diminished, not by the unhealthiness of the profession, but by the surplus of young men numbered among its members. If the mean age at death of general medical practitioners were now collected from the parish registers of England, their longevity would appear much below the average, because their numbers are rapidly increasing. If the same state of things prevails in Germany,—if the medical profession has been increasing in that country,—and we believe that it has been increasing,—while on the contrary divinity and its professors, poorly paid, and settled in their districts by the government, have remained stationary, the melancholy aspect presented to both professions, by the result of professor Casper's researches, will lose much of its terror. Professor Casper found that the clergy were long livers compared with medical men; for out of 100 deaths, only forty medical men had lived to the sixty-second year, while sixty-five divines had survived that year.

From 624 deaths in town and country, professor Casper,[†] of Berlin, has deduced the following ages at which 1000 medical men, and the same number of divines, die.

Between Ages		Medical Men.		Divines.
23 — 32	-	82	-	43
33 — 42	-	149	-	58
43 — 52	-	160	-	64
53 — 62	-	210	-	180
63 — 72	-	228	-	328
73 — 82	-	141	-	255
83 — 92	-	30	-	70

The *mean age* (vie moyenne) of a profession of the common standard should be exactly equal to the *expectation of life* at the age of entering, + the average age of entering itself. The expectation of life at 15 is 42 years,[‡] and 42 + 15 = 57, would be the mean age of persons entering on professions at that age: but a man does not become a clergyman at 15; and if we admit that clergymen take orders at 25, to enjoy the very same degree of life their *vie moyenne* should be 25 + 35 = 60; magistrates may enter on their functions at 40, and their longevity would be extended to 64, because at 40 they would have escaped all the chances of dying between 15 and 40. Dr. Lombard judiciously cautions his readers against comparing the *vie moyenne* of ecclesiastics and magistrates with other professions, because their offices are only filled by men of a "certain age." For the same cause we should be disposed to caution in comparing the mean age of the poor with that of the rich; as many remain in the inferior ranks when young, and only become affluent, or enter on professions requiring a large capital, when they also have attained a "certain age." Dr. Lombard may have obviated these objections in great part, and have avoided the inaccuracies arising out of the irregular periods at which professions are commenced, by not descending lower than thirty years; for at this age the majority of professions are commenced: we are aware this would have considerably diminished the already limited number of his observations, and must profess our thanks for the efforts he has already made to solve a difficult but most important problem in Hygiène. His researches extend over a long period of time, and some of the sources of error being in opposite directions, correct each other, particularly where several professions are grouped together.

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[*] The fluctuations in some professions are very great. In the most flourishing period of its trade, Geneva contained 700 master watchmakers, and about 6,000 workmen. At the present time there are only 2,800 persons engaged in this business.

[†] Annales d'Hygiène, tom. xi.

[‡] According to Mr. Edmonds's mean table; where the expectation is intermediate between the Carlisle and Northampton tables. The Carlisle table applies to the best, the Northampton to the worst class of life.

Before adverting to Dr. Du Bois's researches on the longevity of the medical profession, we shall adduce the few observations made by Dr. Lombard, as they refer to the mortality of all classes of practitioners; a subject at present of more than usual importance, since the establishment of a General Medical Benevolent and Insurance Society has been agitated at the last meeting of the Provincial Medical Association.

No. of Deaths.		*Vie moyenne.*
18	Physicians	66·4
41	Surgeons and Officiers de Santé	54·0

Here is a difference of twelve years in the *vie moyenne* of both classes; in part attributable to the different ages at which the *officiers de santé* and physicians, commence their career: for admit that the general practitioners are qualified at twenty-three years of age, physicians at thirty; then we have 23 + (expectation of life) 39 = 62 for the mean age at death of general practitioners; while the mean age (*vie moyenne*) of physicians, found in the same way, would be sixty-four. But after this correction, the mean age to which physicians live is sixty-six, or two years above the standard; while the general practitioner's life (fifty-four years,) on the contrary, falls nearly eight years below the standard: a striking fact, which, if Dr. Lombard's observations were more numerous, could only be attributed to a recent increase in the class of general practitioners, or to the unfavourable and destructive agencies by which, in the discharge of their painful duties, they are assailed.

According to professor Casper's observations, previously referred to, the numbers in 100 deaths which were seventy years of age and upwards, differed very considerably in different professions; in the following table the results he obtained are compared with those of Dr. Lombard; the medical profession, according to both, stands low in the scale.

Numbers who surpassed Seventy Years of Age in 100 *Deaths.*

	Casper.	Lombard.
Clergymen	42	46
Agriculturists	40	27
Clerks of Public Offices	33	36
Barristers	29	42
Schoolmasters	27	—
Medical Men	24	33

To determine whether literary or scientific pursuits, and that energy of mind which enables men to transmit their name and their works to posterity,—whether the *literarum disciplina*, in the words of Celsus, *ut animo præcipue omnium necessaria, sic corpori inimica est*,—is a problem of no inconsiderable interest. With regard to the distinguished authors and cultivators of medical science, the following tabular view, compiled by M. Du Bois, of the ages attained by 850 medical men who are mentioned in the Dictionnaire Historique de la Médecine, par Eloy, 4to., 4 vol. Mons, 1778, offers interesting data for calculation.

Table viii.

Age.	Death.	Age.	Death.	Age.	Death.	Age.	Death.	Age.	Death.	Age.	Death.	Age.	Death.	Age.	Death.	Age.	Death.
20	0	30	1	40	8	50	14	60	21	70	28	80	34	90	12	100	2
21	0	31	3	41	9	51	10	61	12	71	18	81	15	91	5	101	1
22	0	32	8	42	7	52	12	62	23	72	20	82	15	92	4	102	0
23	1	33	11	43	7	53	12	63	25	73	27	83	13	93	1	103	0
24	1	34	3	44	8	54	16	64	23	74	12	84	9	94	2	104	1
25	0	35	9	45	5	55	14	65	23	75	37	85	8	95	2	105	0
26	0	36	11	46	12	56	13	66	19	76	26	86	8	96	2	106	1
27	0	37	4	47	10	57	9	67	13	77	14	87	6	97	2		
28	3	38	4	48	13	58	19	68	23	78	16	88	4	98	1		
29	2	39	3	49	4	59	17	69	20	79	15	89	4	99	0		
Total	7		57		83		136		202		213		116		31		5

M. Du Bois adduces this table, where rather more than forty-two in a hundred lived to seventy years and upwards, to controvert Casper's announcement; but it furnishes data for determining the relative longevity of medical writers by a better method than that employed by Casper, and for this reason we have deduced from it the expectation of life at the age of forty, fifty, &c. years, when all, likely to obtain a place in biographical dictionaries, have established their reputation.

Table ix.—Expectation *of* Life *deduced from the Deaths of* 778 *celebrated Medical Men ;—compared with the Carlisle, Northampton, and Stockholm Tables.*

	Ages.	Medical Men.	Carlisle Table.	Northampton Table.	Stockholm Table.
	40	27·14	27·61	22.12	18·12
	50	19·96	21·11	17·00	13·81
	60	13·74	14·34	11·92	9·52
	70	9·04	9·18	7·08	5·36
Vie moyenne	40	67·14	67·61	62·12	58·12

The medical writers here appear to enjoy a vitality nearly as high as that on which the Carlisle table was founded; far surpassing the other tables applying to populations in cities, and in unfavourable circumstances.

Calculated only on the *deaths*, these results are open to *some* of the objections previously stated; but they agree very remarkably with the

Carlisle table throughout, and on this account merit considerable confidence. Those only accustomed to contemplate fragments of life,—the uncertain existence of individuals,—would scarcely believe, perhaps, that the number of years 778 distinguished men have to live, at the age of forty, may be predicted precisely, without the chance of erring more than a few months; yet by going through the necessary calculations with the data furnished by M. Du Bois, and comparing the result with the Carlisle table, they may convince themselves of this truth; and discover that the duration of life is submitted to laws as fixed as any other natural phenomena.

ART. IX. — *Introductory Lecture to a Course of Lectures on the Practice of Physic; to be delivered at the Medical School in Aldersgate street.* By MARSHALL HALL, M.D. F.R.S. L. and E., &c. —*London, undated.* 8vo. pp. 55.

Syllabus of Lectures on the Diseases of the Nervous System; to be delivered in the Aldersgate School of Medicine. By MARSHALL HALL, M.D. &c. &c.—*London*, 1835. 8vo. pp. 19.

An Introductory Address, delivered at the commencement of the Tenth Session of the Manchester School of Medicine and Surgery, Pine-street. By JAMES L. BARDSLEY, M.D. &c.—*London*, 1835. 8vo. pp.47.

An Address delivered at the First Anniversary Meeting of the Birmingham School of Medicine and Surgery. By JAMES THOMAS LAW, Chancellor of the Dioce**ss** of Litchfield.—*Birmingham*, 1835. 8vo. pp. 21.

An Introduction to the Study of Practical Medicine; being an Outline of the leading Facts and Principles of the Science, as taught in a Course of Lectures, delivered in the Marischal College of Aberdeen. By JOHN MACROBIN, M.D., Junior Professor of Medicine in the Marischal College and University of Aberdeen, &c. &c. Part I.—*London*, 1835. 8vo. pp. 226.

St. Thomas's Hospital Reports. By JOHN F. SOUTH, Assistant Surgeon. No. I. November, 1835.—*London.* 8vo. pp. 118.

WE are not among those who look with indifference on Introductory Lectures, Syllabuses, Addresses at Medical-School anniversaries, Introductions to the Study of Medicine, and Hospital Reports. In each publication of this kind we see a manifesto of the principles professed, and the views entertained in the School in which it originates, not less characteristic of such School than the clinical lectures contained in so many of our periodical publications are of those who deliver them. If we read with surprise the language in which some of these clinical discourses are delivered,—a language not only unsuited to the teaching of any science, but sometimes such as would scarcely be tolerated in good society; we are able to contrast these with other clinical discourses, at once so eloquent and so descriptive that we seem to hear the lecturer, and to see the very case which suggests his remarks. To the shame of the School of London must it be added, that for examples of the former kind,—truly among many brighter,—we must look almost exclusively to it. The Schools of Edinburgh, Dublin, and Paris, take a higher tone; and the addresses and lectures delivered in the Provincial Schools of England are uniformly earnest, serious, and dignified; worthy, in short, of the importance of the knowledge which in such institutions it is professed to teach. In the works before us, also, we are happy to say, there are no indications of that bad taste which addresses itself to the most ignorant of the crowd of young men who fill the class-rooms of medical teachers. Of various merits and character, each of these works is composed in a style which becomes the teachers, and is suited to the learners, of a liberal science.

The extensive medical learning, the minute observation, the experience of Dr. MARSHALL HALL, are, of course, conspicuous in his lecture; and those acquainted with his previous publications will recognize the same zeal to promote an accurate diagnosis,—the same valuable remarks enforced concerning the good and bad effects of bloodletting,—and numerous indications of that attentive notice of all the phenomena of sickness which characterizes this eminent physician. If it be objected, that a large portion of the lecture is already well known to most medical readers, it is to be remembered that it is almost all valuable, and that in this discourse it is addressed to students, to whom it is probably new. The remarks on diagnosis are presented in a very striking manner; as, for instance, in the following passages:

> "You see this drawing of the exterior part of the abdomen: here are the marks of a seton; here are the marks of cuppings, and here those of leeches: they are absolutely unaccountable! What was the disease in this case, think you? Why, there was no disease at all! Yet it was proposed by one surgeon, and it was pretended to be the wish of the patient, to extirpate the ovarium! In a similar case at Edinburgh, the abdomen was actually laid open, but no ovarial disease existed!! Now, what is the meaning of all this? In the case represented here it was a *fictitious* disease. The patient was a malingerer in the hospitals, and deceived many hospital physicians. In the other case, the surgeon deceived himself." (P. 14.)

Speaking of bloodletting as a diagnostic, he says,

> "A gentleman, residing twelve miles from London, was taken with an affection of the head. I was sent for, and found, on enquiry, that he had been bled early, and that he had speedily fainted under the influence of the loss of blood. The case was long one of great anxiety. Another physician was consulted. It was suspected to be '*ramollissement*.' Confiding in the diagnosis afforded by the *early* syncope in the *early* stage of the disease from bloodletting, I continued to hold out hope of recovery. The patient did recover! Now, the hope I felt, and held out, in this case, flowed almost entirely from the confidence I reposed in the diagnostic afforded by the event of bloodletting!
>
> "A few days ago I was consulted by a medical friend in the case of his wife; he feared peritonitis: there had been previous attacks of the same kind; there were great pain and tenderness of the abdomen; the tongue was loaded: I prescribed bloodletting in the upright position; the patient, though young and stout, fainted on losing eight ounces of blood! From this moment there was no obscurity in the diagnosis, no hesitation in reference to the treatment, no interruption in the recovery." (P. 47.)

In these observations we are reminded of the principles laid down in Dr. Hall's Researches relative to the Effects of Loss of Blood, and some of the facts contained in that work are in the lecture expressed by a table showing under what circumstances the *tolerance* of bloodletting is increased or diminished. The degree of tolerance in health being represented by the quantity of fifteen ounces, as the mean quantity of blood which flows before incipient syncope; that of augmented tolerance is represented, in congestion of the brain, by ℥xl-l; in inflammation of serous membranes, by ℥xxx-xl.; of the parenchyma, by ℥xxx.; and of the skin and mucous membranes, by ℥xvj. The diminished tolerance is marked, in fevers and eruptive fevers, by ℥xii-xiv.; and gradually lower in delirium tremens and puerperal delirium, in laceration or concussion of the brain, in intestinal irritation, in dyspepsia and chlorosis, down to cholera, which is marked by ℥vj. In support of these views, Dr. Hall quotes four entire pages from Mr. Wardrop's Lectures.

The greatest portion of this Introductory Lecture is devoted rather to enforcing the views previously published in Dr. Hall's different works, than to the practice of physic in general. The concluding pages exhibit his arrangement of diseases, which does not appear less arbitrary than that of other nosologists. One class of the Diseases *of Systems* (the first of his two great divisions,) consists of dyspepsia, chlorosis, and *hysteria.* Scorbutus is ranged under the hemorrhages. The arrangement of the Diseases *of Organs* (the second great division,) is, however, unexceptionable.

It is, we think, a matter of regret that Dr. Hall's Lecture should be disfigured by some peculiarities, of a nature to prejudice those unacquainted with him against any of his lessons. The chief of these is an apparent disregard, notwithstanding very formal protestations to the contrary, of being intelligible to his hearers. That the dedication of the lecture (to M. Louis,) should be in *French,* may be regarded merely as an injudicious whim; but, that three or four pages of the lecture should be in the French language, consisting of important quotations, is really a fault. For three-fourths of the hearers we venture to say that these instructive passages were as little edifying as if they had been read in High Dutch. Then, in the list of contents, we read "The Méthode Numérique of M. Louis," which means nothing more than what is now known to every English reader as *the numerical method* of that distinguished physician. Even Laennec is read in French to the students, although the translation is in everybody's hands. Why should "entérite" be used for the well-known word enteritis? and what idea will a young man from a country surgery take away from Dr. Hall's lecture, for being told that "a little *cliquetis* in the breathing" may enable him to give a *confident* judgment. The English student will not find this word in Mr. Hoblyn's Dictionary, a work dedicated to Dr. Hall. If the French Dictionary is referred to, it will be discovered that it means nothing more than crepitation. In the passage, however, in which the word *cliquetis* occurs, the reader is *particularly* referred to Researches, p. 50; in which page the sound is called *crepitus;* and, after all, it would seem that râle, rattle, or rhonchus, was what was really heard. Inaccuracies of this kind are very perplexing to a student, and ought particularly to be avoided by a lecturer. It appears, also, to be from an unjust partiality for the French idiom, that Dr. Hall calls anatomy, pathology, and morbid anatomy, *the* anatomy, *the* pathology, and *the* morbid anatomy, which is certainly not English. We mention these blemishes freely; for we know they produce an effect upon many readers detrimental to the author, who, making allowances for some eccentricities of this kind, and perhaps for a restriction of observation to too small a range of subjects for a medical teacher, is highly entitled to the respect of the profession.

Dr. **Bardsley**'s Introductory Address is more general in its subjects than that of which we have just spoken; but its principal object is to explain, at the commencement of the session, the means possessed in the Manchester School of affording an efficient education to medical students. The advantages afforded by the School, which are considerable, are set forth without parade, and without exaggeration; and conveyed in language correct, and even elegant, accompanied by sentiments of a nature to rouse the just ambition, and elevate the views of the students. To Manchester belongs the distinction of having, in 1824, established the first complete provincial medical school in England. With a population of 200,000 persons; an hospital into which nearly 20,000 patients are admitted in a year, including upwards of 4000 accidents; and with such teachers as Turner, Ransome, Dalton, Henry, and Bardsley, its efficiency can only be doubted, we presume, by the College of Surgeons, who have twice, Dr. Bardsley informs us, refused *to acknowledge* the Manchester hospital, or to give it equal privileges with hospitals in London containing not more than fifty beds. A regular system of clinical instruction is established in the Manchester hospital. There is also a Fever hospital in which one hundred patients can be received; although at Manchester, as elsewhere, students have not yet become sensible of the immense importance of making themselves acquainted with the forms and varieties of fever. The medical school possesses museums, models, drawings, engravings, a library, medical societies, and every auxiliary that students can require to stimulate and to assist their industry. Considering all these circumstances, no reasonable person can doubt that the town which has already inscribed in medical annals the names of Percival, White, Ferriar, Bardsley, sen., Simmons, Home, Henry, and Roget, will continue to furnish useful and honourable labourers in all the departments of medical science, by whom the boundaries of each will in all likelihood be increased.

The **Rev. Chancellor Law** must permit us to notice him among doctors and teachers, in consequence of the apparent kindness and zeal with which he has lent his services to the interests of the Medical School of Birmingham, at the first anniversary meeting of which, held in August, his Address was delivered. We cordially agree with the reverend gentleman in hoping that the profession of which he is an ornament, and the profession of medicine, may "always be found advancing hand in hand in the great Christian duty of contributing, each according to its respective means, to the welfare of the human race." It gratifies us to read the terms in which he speaks of the general character of the members of our profession, which abounds, he is pleased to say, "with gentlemen of the most christian-like tone and temper, and of singular humanity; remarkable alike for the strength,—the correctness,—and the richness of their highly cultivated and Christian minds." We trust the Birmingham students will ever remember this praise, and also, that *they* belong to the profession described in such honourable terms. As we happen to know that this Address was published at the urgent request of the hearers, and with the reluctant consent of Mr. Law, we do not deem it a proper object of criticism; but we may sincerely express our admiration of the judgment with which its topics are selected, and the delicacy with which they are treated. The preliminary education of students, the reputation of the teachers in the Birmingham school,—the zeal and perseverance of its founder, Mr. Sands Cox,—the munificence of the patrons,—are all touched upon with much discrimination; and there is throughout an indication of warm and generous feelings which every reader must admire. Appended to the Address is the Report of the School, by which it appears that the number of students is ninety; and that not a single student educated at the Birmingham school, during a period of eight years, has been rejected by the Royal College of Surgeons. In the departments of Anatomy, Natural History, Botany, and Mineralogy, the great exertions which have been made are shewn in the extent and beautiful arrangement of the museums. That of anatomy is receiving continual additions. The present Sir Charles Throckmorton, of Coughton Hall, (Warwickshire,) in early life studied medicine; becoming afterward by accident a prisoner in France, during the war, he was permitted (in consequence, we believe, of a connexion between the ancient English family of Throckmorton and that of General Clarke, Duc de Feltre,) to travel to the Pyrenees and Alps; during which journey he made a collection of dried plants, which he has liberally presented to the Botanical museum of the Birmingham School.

A medical library is attached to the Birmingham School, and already contains more than nine hundred volumes; among which are many rare and valuable editions of the ancient medical authors. In this, as in other departments, we believe the School has been materially assisted by the Drs. Johnstone, of Birmingham, so well known for their learning and extensive professional reputation. Altogether the Report is of a most satisfactory description, and the success of the Birmingham School may be considered as fully established.

If the merits of a work were alone to determine the length of our notice of it, that of Dr. Macrobin would demand a considerable space in these pages. It is itself a most condensed analysis of the present state of our knowledge of congestions, inflammations, hemorrhages, dropsies, and fevers; and therefore scarcely admits of abridgment. It constitutes the first part of a work which, although modestly entitled an Introduction, will rather, we predict, take rank as a Conspectus or Manual of Practical Medicine; not less suited to the practitioner, as a concentrated recapitulation of such practical knowledge as may be considered established, than to the student, as a convenient text-book. In the Fifth chapter, which we have very carefully perused, and which is devoted to the important subject of Fever, we meet in every page with evidences both of the exact knowledge of the author and of his well-exercised judgment: the facts presented to the reader, derived from authentic sources, cannot be read without putting the mind on its guard against hasty generalizations, by shewing the various aspects of fever, and its various consequences, in different circumstances. The practical rules are delivered with great simplicity, and with reference throughout to the pathology of the disease, founded on the best authorities of all countries. We consider it no small praise to say that Dr. Macrobin's manner of treating the various subjects comprehended in this volume continually reminded us of that of one of the most distinguished living professors of Edinburgh, familiar to us in his lectures and his writings,—we mean Dr. Alison; and we were consequently pleased to observe that the author had been one of the assistants in the clinical wards of the Edinburgh Infirmary, and in the hospital at Queensberry House, in 1826-27, when the fever prevailed which is so admirably described by Dr. Alison, in the Edinburgh Medical and Surgical Journal. A better school, or better preceptors, could nowhere be found; and it will indeed be fortunate for Aberdeen, and powerfully redeem the errors of by-gone days, if its school becomes characterized by the same merits. The style of Dr. Macrobin's book is marked throughout by the correctness, the calmness, and the judicious decision which bespeaks the accomplished physician: there are in it no appeals to the prejudices and passions of his hearers; but every page is calculated to awaken the attention, to assist the memory, and to exercise the understanding. These are the strongest and best recommendations such a work can possess for the student of medicine.

Having commenced this notice by some observations on the abuses which in a few instances deform the clinical instructions of London, we have particular pleasure in concluding it by a brief allusion to the First Number of the St. Thomas's Hospital Reports, edited by Mr. South. These are really clinical lessons; and, although, like other lessons of that kind, their chief utility is felt by those who hear rather than those who read them; by those who see the cases, rather than by those who have to imagine them; yet the reader may derive instruction from reports well detailed, and treatment candidly explained. The subjects of the cases in this number are: Syphilitic Eruptions, treated with Hydriodate of Potash; Wounds of Arteries; Extraction of a broken Catheter from the Bladder by the Urethra; Mortification of the Hand and Fore-arm, following Contusion; Dropsy terminating in profuse Diuresis; Retention of Urine, arising from Gonorrhœa; simple Fracture of the Tibia and Fibula, followed by Paralysis of Motion on the right side of the head and face, and of the arm, from deprivation of stimulus; Hydrocele, treated with Seton; Delirium Tremens; Absorption of a Portion of the Cranium, following a contused Wound, with remarkable symptoms of cerebral Disorder. To most of the cases clinical remarks are added, and they have the merit of being strictly clinical; those on delirium tremens perhaps excepted, which branch out into a kind of general lecture; an error in this case pardonable, on account of the interesting observations of Dr. Roots, but certainly in general objectionable. Although not now delivered at the bedside, clinical lectures ought to be carefully based on a case or cases. Nothing can be more out of place in a *clinical* lecture than the disquisitions sometimes printed under that title, and which are, in fact, lectures on the theory and practice of medicine, almost necessarily superficial, and certainly superfluous. To the St. Thomas's Reports these observations do not apply; and we trust the future numbers will contain a somewhat larger proportion of *medical* cases, the study of which, in the hospitals of the English metropolis, is even yet, we suspect, not so popular as the ordinary duties in which the students are to be engaged render it desirable that it should be. Deeply interested as we have been in the contemplation of the rise and progress of the new Schools of London, we retain an ancient feeling of regard for the Borough hospitals. We cannot forget the great names which have rendered them celebrated all over the kingdom. They needed, no doubt, the stimulus of such an age as that in which we live, but they have not been insensible to it; and, with their prodigious resources, nothing but a want of industry or of talent, neither of which are now wanting, can depress them below the rank of their younger and not unworthy rivals.

The Introductory Lecture of Mr. Travers, delivered in October last, and prefixed to the Reports, is full of judicious observations. He exhorts the students to co-operate with their instructors to restore St. Thomas's School to its pristine grandeur and importance; warns them, that, without industry, temperance, and devotedness to the profession, they cannot attain success; reminds them, that the ultimate object of their study is not a licence or diploma, but to render themselves valuable to society; and that they can only do this by constant attention to lectures and hospital-practice. Those so attentive will, he tells them, be better fitted to pass their examinations by a month's revision of their labours than the idle can become by any kind of preparation. He places before them, in an elevated and just light, the importance of the duties that await them, and tells them that, in these days of artifice and delusion, there is no course left to high-minded men, in the unavoidable competition with pretenders, "but to render their superiority of knowledge a mark, a beacon of distinction, by which they shall be known." It is thus, we think, that students ought to be addressed. The period of study is, indeed, as Mr. Travers well expresses it, not a thraldom, but a privilege; and the value of the privilege can only be felt by those whose views are well directed by their teachers; which can never be more efficiently done than when, as in the case of Mr. Travers, the path to honourable success is pointed out by a teacher equally distinguished by his professional eminence and his estimable personal character.

ART. X.—*A Memoir of* JAMES JACKSON, Jun. M.D.; *with Extracts from his Letters to his Father, and Medical Cases collected by him.* By JAMES JACKSON, M.D., Professor of the Theory and Practice of Physic in Harvard University; and Physician of the Massachusetts General Hospital.—*Boston*, (*U. S.*) 1835. 8vo. pp. 444.

ON this affecting volume,—for such it is,—we could, we think, compose a long article, not uninteresting and not uninstructive to the reader; but our limits warn us that we can but allude to its various and mournful, and yet pleasing contents. The story which it contains is sad, and soon told: that of an ardent and intelligent youth, the hope of his parents and of society, pursuing his studies in America and in Europe, so as to attract not the regards only, but the friendship of his teachers, and the warm esteem and admiration of many friends among his seniors, and those of his own age; passing from those studies to what was expected to be the scene of his future labours, full of energy, and animated by noble views, and cheered by happy prospects; the pride of his father, and an honour to the country of his birth; and, in a few short months, all those commencing labours interrupted by sickness, and all those hopes, and that just paternal pride, and every worldly aspiration and prospect closed by death:—adding one more to the many examples of human insecurity, which deprive reflecting persons of all solid hope except what points to a less frail and transient existence.

If any thing could add to the interest of a narrative of such events, it is that this record is made by the bereaved father, who has thus raised an imperishable monument to a son of whom any father must have felt proud. Every page tells of the recent life, the early death, the sorrow of those surviving. The dedication is to M. Louis and to Dr. Boott, "the two men to whom, among many, he (the deceased) felt most indebted whilst in Europe;" to M. Louis, whom he "regarded as a second father;" to Dr. Boott, "whose bright mind and pure and elevated virtues inspired the most ardent and sincere love in his young friend." It is indeed a sufficient eulogium of the young American, that he was honoured with friendship and kindness by men like these. We ourselves had the pleasure of only a very slight acquaintance with Dr. Jackson, jun., but this was sufficient to impress us with a high opinion of his merits, and we know that, in the judgment of some of the first physicians in London, he was considered as being a model to medical students.

The whole of the short life of the subject of the memoir, his thoughts, his hopes, his labours, are concentrated in this volume. Its few and simple incidents are related candidly, and without affectation; his merits are dwelt upon without exaggeration; and his own letters, the cases collected by him during his studies, and his own remarks upon them, justify every syllable that is said in his praise. Nor can we refrain from expressing our admiration of the firm and resigned spirit in which the task of collecting these remains has been performed by Dr. Jackson, sen. "In some points," he says, "the task has been grateful to me; sad though it may seem for a father." "I thank God," he adds, "that I have been able to maintain my cheerfulness, and to attend to the common occupations of life, since the deplorable loss which I suffered in his departure from this world. But every hour has he been in my mind. In every occupation, in almost every conversation, however little others could see the connexion, his image has been before me. It has been a beautiful image, and has not checked any pleasure, nor even any gaiety in which I thought that he could have joined." These are the accents of a manly and sacred grief, such as no father, we apprehend, can listen to unmoved.

In one comprehensive paragraph we learn the dates and chief events of the life of Dr. James Jackson, jun.

> "He was born on the 15th January, 1810, was graduated at the University in Cambridge" (U. S.) "in 1828, and then engaged in the study of medicine. This he did under my direction, and as my pupil. He continued as such till the April of 1831, and during this time he attended the medical lectures of our university, and saw the practice of the Massachusetts General Hospital. In the spring, 1831, he went to Paris, where he arrived in May, and remained till July, 1833, except during a visit of six months to Great Britain and Ireland, in the spring and summer of 1832. He reached home at the end of the summer, 1833; and was graduated as doctor of medicine in our university, in February, 1834. He was now prepared to engage in practice, and took rooms for himself in Franklin-place. He was thus

brought to the starting-place of active life, and under circumstances the most flattering and the most grateful, when he was arrested in his course. Exactly at this point he was arrested. His arrangements being made, he sent an advertisement to the public papers, which appeared on the 5th of March, and on that day he was taken sick, so as to lodge at my house instead of occupying the rooms which he had just announced as his residence. This sickness was his last, and he died on the 27th of the same month, being in his twenty-fifth year." (P. 4.)

He appears to have possessed great vivacity, great disinterestedness, a most warm and friendly disposition, and a singular aptitude for study. Before the second year of his medical studies was completed, he wrote a dissertation on Pneumonia, which so evinced his research as to gain him the Boylston medical prize. The extract given of a letter from his excellent father to him, when setting out for Europe, gives assurance that the heart of the son must have been ever touched and influenced by the example of a parent at once so affectionate and so judicious. "There is a risk of life," says this excellent man, "and it would indeed alter the aspect of my future days if I did not hope to have you by my side, and to leave you behind me in this world. But this is the smallest risk by far. Whether we pass a few short years together in this world, is comparatively of little consequence: whether we meet in a better world, is of immeasurable importance. This depends on ourselves,—on the strict regard to morality which we both maintain; a morality in Dr. Holyoke's sense, which includes piety,—a regard to our Maker, as well as to ourselves and fellow-men." Again, how simple, and yet how impressive, is the following expression: "In temptation, I think you will first think of home, and then cast your eyes higher,—to the home we all ultimately hope for, and to the Father who is better than any earthly parent." Well might his noble son say in reply, "My heart beats, and my eyes fill, and my hopes are brightened, as I advance in reading your kind letter of affection and advice." Nothing, indeed, can be more beautiful than those farewell letters between such a father and such a son. We wish that every English student would peruse and reflect upon them.

All the parent's fondest hopes were realized by his son's conduct and progress on his arrival in Paris, where his industry acquired new force from the examples of diligence by which he was surrounded; and his zeal for knowledge, together with his excellent principles, secured him from all the common temptations met with in great cities. Without any special introduction to them, he became the favourite pupil and personal friend of M. Louis and M. Andral; a circumstance which speaks most strongly for his application and intelligence. M. Louis became his correspondent after his return to America, and appears to have entertained the highest regard for him. It is indeed very delightful to us, who have so often to refer to the professional labours of M. Louis, to find in this memoir convincing proofs that his great talents, his astonishing industry, and his perseverance in the investigation of medical truths, is combined with every quality that can endear him to those who are honoured with his friendship. The extracts given from his letters, in which he makes some suggestions as to the future course to be pursued by Dr. Jackson, are, as may be supposed, extremely interesting. It is evident that he thought most highly of the pupil's powers of observation; and he strongly urged the devotion of four or five years to their exclusive employment. When we read the earnest and friendly suggestions of this accomplished Frenchman to the father of a young American student, it seems to us as if the natural boundaries of countries were no more felt in the pursuit of science, but that a bond of union and peace was forming, as we trust it is, which meaner considerations could never break or destroy.

In the account given of the Parisian life of young Jackson, we can see an explanation of the attachment shewn to him by the most eminent men of the medical school of Paris. During a residence of eighteen months, he devoted not less than five hours, and sometimes seven hours, a day to the hospitals; a great portion of which time was employed in the interrogation and examination of patients, or in investigating appearances after death. The remainder of the day was filled up with attention to practical anatomy, to obstetrics, and to the society of those whose professional knowledge was likely to increase his own. His letters bear continual testimony to his unremitting labours, and to his anxious desire to learn and to improve. The valuable hints derived in the morning's conversation with Louis or Andral were often subjected, before the day closed, to trial at the bedside of the hospital patients. Of some of the eloquent lectures of Andral he sent his father faithful abstracts, evidently made before any part of the impression had faded. It is impossible to read his almost daily records without being carried into the very midst of the Parisian school, and beholding all the energies by which it is characterized, as it were displayed. Some of our London students might see, in this kind of diary, a somewhat striking contrast to that apathy which is contented with the mere knowledge that will meet the common emergencies of country practice, and which no desire to extend he boundaries of medical science ever disturbs.

It was our intention to give several extracts from Dr. Jackson, jun.'s Letters, which will probably not be seen by many students in the original memoir. We can, however, only afford space for one or two. The following conveys some idea of the manner in which the teachers of Paris interest their followers, and is at the same time characteristic of the industrious writer:

" *Paris; November* 28, 1831.

" I am still following at la Pitié. I have made two or three efforts to follow Chomel at Hôtel Dieu; but it is impossible to do so with advantage. One may hear the clinique, to be sure, and a very good one too; but one cannot see the patients. This, especially in my present situation, is the most important by far. My great object is to accustom my ear to stethoscopic sounds: in order to do this I must see the patients. The visit at Hôtel Dieu is commenced an hour and a half before clear daylight, by candle-light, indeed;—there are from two to three hundred pupils in the wards at the same time, and one is fortunate if he sees four patients, and examines one, in the course of the visit. Whereas, the visit is made at la Pitié by daylight; there are not more than fifteen students, and I call it a black day in which I have not examined as many as six patients at least, who present stethoscopic phenomena; ordinarily I examine as many as ten. Besides, as I have told you before, Louis gives a little clinique at each bed. You see that I do right in giving the preference to la Pitié. I think I am becoming daily more able to distinguish the signs which indicate commencing phthisis. They are not one, but many.

"I find that both Louis and Andral depend more upon the respiration, its force, or its modification, the râles, craquement, gargouillement, and the sound when the patient coughs, than upon the voice. The craquement, or, when more marked, gargouillement, is, with them, a very important sign. When slight, it indicates the commencing ramollissement. Frequently it is not heard during the common respiration, but only when the patient takes a full inspiration, or coughs. This, if attended with obscurity, or feebleness in the respiratory murmur, is very decisive. Andral says, in as many words, in an article on auscultation, which he has lately written in the new Dictionary of Medicine, that he depends much more upon the respiration, the râles, and the sound of the cough, as affording evidence of tubercles, than upon the voice. In this same article he makes some very important and very interesting distinctions, especially on the subject of bronchial respiration. I think he has facilitated for me the study of auscultation with children, particularly by his description of one variety of bronchial respiration. I fancy that one or two of those mistakes in diagnosis, of which I lately wrote you, were owing to a want of attention on my part to this distinction. If so, I may hope to profit by them. Since reading the article, I have not yet had an opportunity to settle this important question." (P. 88.)

The account given of the first appearance of the cholera in Paris, in March 1832, of its rapid spreading through the city, of the crowded state of the wards, and of the dismay communicated to the minds even of experienced physicians by the presence among them of this awful disorder, is extremely graphic; being, indeed, a simple and natural detail of the events as they occurred, and of the immediate impression made, and far more striking than the most highly-wrought description. His desire to study the disease, and his efforts to relieve the anxiety of his father, produced a struggle in his mind at this time which is very forcibly portrayed in several of his letters. He determined, rightly we think, not to leave the post of danger; and pursued his clinical observations with new interest and fresh industry. "For the disease,"—he says, "one word;—it is death. Truly, at Hôtel Dieu, where I have seen fifty and more in a ward, it is almost like walking through an autopsy room—in many nothing but the act of respiration shows that life still exists; it is truly awful." Eight days afterward, (April 8,) he says, "I am with Andral. During five days we have had eleven very exact autopsies," &c. &c. "I work harder than ever in my life before." "I shall send you one hundred detailed observations, and forty or fifty of the most thorough and accurate autopsies that you ever read." In another letter, written on his way to London, some weeks afterward, he says, still speaking of the disease he had lately lived amidst: "you have no conception of the mortality; and allow me, your son and pupil, to say to my father and master, you have no conception of the disease, and will not have till you have seen it. The Frenchmen even, who look upon death and dying with as much sang froid as any people, were thrown off their balance. Never shall I forget Louis's altered face and aspect for the first week, emaciated, wan, wretched, like one who had received a blow from which he had not recovered. There are few men living so familiar with death or the dead."

We refrain, with reluctance, from following our young and intelligent traveller to England, where it is gratifying to perceive that the public institutions and collections, especially the Hunterian, afforded him great interest. Of the museum at Guy's hospital, and of Dr. Hodgkin, he speaks in deserved terms of praise. In a tour through some of the midland and northern provinces, and part of Scotland and Ireland, he alludes every where to the kindness and hospitality which was shewn to him. Our American friends will see, we hope, in this part of Dr. Jackson's travels, a proof of the liberal manner in which they are sure to be received by the most esteemed members of our profession in England, Ireland, and Scotland. The love of science is too pure and elevating to permit those imbued with it to be contaminated by the narrower and baser feelings, so mischievously encouraged by too many writers who have visited America, and who have composed books apparently without entertaining any views worthy of the people of an enlightened country.

We must also pass over Dr. Jackson's second visit to Paris; and we are unable to notice the numerous cases appended to the Memoir and Letters. Indeed, we should be glad to see the letters and the memoir, somewhat abbreviated, and more carefully arranged, published in a small volume, without the cases. Students have too few of such books, and think too little of the noble examples which have adorned the profession of medicine.

Little more remains to be said. Dr. Jackson returned to his father and to his home, and prepared to fulfil as a practitioner and a citizen all the hopes to which his virtues as a student had given rise. Whilst studying the autumnal fever, as shewn in the Massachusetts hospital, and tracing its analogies with the fever of Paris, so well described by his friend and preceptor Louis, he was himself seized with the disease, and, partly perhaps in consequence of the existence of previous intestinal irritation brought on during his great exertions in Paris, suffered from it very severely. Diarrhœa remained during his convalescence; dysentery supervened; and, seven months after his return to New York from Europe, he ceased to exist.

We wish that our fervent testimony to the merits of this excellent young man could convey to his father some trifling consolation in such an irreparable calamity: but we think he does not need it. His letters, and the composition of his memoir, shew that his mind is carefully regulated, and that his hopes are not merely worldly. To such a mind, even in the deepest distress occasioned by such a trial, the reflection must soon have presented itself that the merits of his excellent son, his duties, and his virtues, would not be measured by the mere limits of his earthly life. Young as that son was, he left an example not likely to be lost upon the aspiring young men of his own great country; and we can truly add, that it is one well worthy of being followed by every European student whose wish it is to obtain honourable distinction, and pure and permanent fame.

Art. XI.—*Compendium of the Ligaments; illustrated by Woodcuts, with the Articular Cartilages, Interarticular or Moveable Fibro-Cartilages, Synovial Membranes, and Bursæ Mucosæ of the Joints; the Mode of Union, and the Bones entering into the Composition of each; and an Outline of the Dislocations, Fractures, Physiology, and Pathology.* By A. M'Nab, jun. m.r.c.s. l. 1835. pp. 86.

The little compilation bearing the above title, is a concise and tolerably well digested statement of the subjects of which it professes to treat. It can hardly be expected that in eighty-six pages of a small duodecimo anything beyond an outline of such subjects can be afforded; and it must require more than ordinary powers of judicious compression to render such an outline of much practical utility; the imperfections, therefore, of the present treatise are rather those of manuals in general, than of this particular performance. These objections are not applicable to the anatomical or physiological parts of the work; the former is well arranged and carefully executed; and the latter sufficient for all practical purposes. Of the woodcuts, we cannot speak favourably.

In that portion of his Compendium in which the author has treated of the anormal conditions of the parts, to the consideration of which his work is devoted, his object has evidently been to collect a great quantity of matter; and in so doing he has evinced considerable industry. The chief defects (in treating of dislocations and fractures,) consist in occasional omissions of the causes of such injuries, circumstances the knowledge of which assists so materially in diagnosis; in an insufficient notice of difficulties arising from complications; and in a deficiency on the subject of differential diagnosis. Of the diseases of bones and joints, a succinct and faithful account, as far as so much condensation will allow, has been given; but the remedial means are prescribed without sufficiently associating them with the conditions in which they should be individually employed. The author's style would admit of considerable improvement; the want of a proper employment of periods, and an indulgence in long sentences, giving a heaviness and confusedness to his composition.

We may recommend the work to those who require an accurate account of ligaments; but in its surgical department it can scarcely be of much utility.

Art. XII.—*Illustrations of the Botany and other Branches of the Natural History of the Himalayan Mountains, and of the Flora of Cashmere.* By J. Forbes Royle, Esq., f.l.s., &c. *London. August,* 1835. *Part VIII.* Folio.

As only a single number of this splendid book has come into our possession, since we commenced our critical labours, we must put off to a future occasion such a review of the whole of the Parts published, as the importance of the work claims at our hands. We must, however, say of the present Part that the plates, eleven in number, nine of botanical and two of zoological subjects, are extremely beautiful, being very finely coloured, and the representations clearly possessing that *naturalness* of character which enables us almost to say that a portrait is *like,* even although unacquainted with the original. The text is rich in original details, as well as in elaborate scientific researches; and every thing bearing on the Materia Medica, whether as acknowledged in the schools or as existing only in the unwritten dispensatories of the natives of the country, is studiously noticed. Mr. Forbes Royle, amid his botanical science, seems always to keep in view his own profession.

ART. XIII.—*The British Medical Almanack, and Supplement.* 1836. *London.* Small 8vo. Pp. 160.

THE industry of the editor, and the exertions of the publisher of this excellent annual, are equally conspicuous in this, which is the second year of the appearance of this almanack. It is literally *full* of information, admirably selected and arranged. To the calendar is appended a chronological history of medicine. Lists are given of all the public medical bodies, and of the medical officers of nearly every public institution in the kingdom. Numerous useful particulars are inserted relating to all the universities and schools of medicine, and to various learned societies. The lecturers, the fees, the hours of lecture, of all the great schools of London, are stated in tables; and the expence of attending the hospitals, of dresserships, &c., are given in a similar manner. Accurate information has been collected for its pages, concerning all the provincial schools, and many provincial societies; as well as concerning the Faculty of Medicine of Paris. Indeed there is scarcely a subject on which occasional information is required, either by practitioners or by students, in relation to the general state of the profession, which is not here to be found.

In the Supplement, now for the first time added, we observe numerous notices of statistical interest; an account of English and French weights, and of new medicines; of tests of the urine, and the hydrometer; a short but correct and useful description of the signs derived by auscultation and percussion, with a tabular view of them; a list of antidotes of several of the poisons, and directions for the treatment of asphyxia; with an abstract of the Anatomy Act. The statistical tables relate to the mean weight and height of the human body at all ages; the weight of the skeleton, brain, and heart; the laws of human mortality; the average number of *females* dying annually; the mortality and diseases of armies; the proportion of sickness at different ages; statistics of the English hospitals, (*this seems particularly deserving of the attention of the medical officers of town and country hospitals*); statistics of the epidemic cholera in England (the *Facts* by the late Sir David Barry); the bills of mortality; tables illustrating the laws of disease, &c. &c. On many of these subjects, it is well known to practitioners, particularly in the country, that correct information is not readily to be attained: that given in the supplement to the British Medical Almanack bears every mark of having been prepared with the utmost care. We are justified in saying that there is no existing work in which so many important particulars are condensed into so very cheap a book. The work is got up with great neatness, and independent of its *professional* merits, answers the purpose of a very convenient calendar for the meteorologist and botanist. A medical almanack has long been wanted, and a more useful one than this could hardly be imagined.

ART. XIV.—THE FOREIGN JOURNALS.

As the readers of the British and Foreign Medical Review will be so much indebted to the contemporary journals of foreign countries, one of our departments being almost exclusively supplied from them, it will doubtless be interesting to many to be made acquainted with their general nature and character. It is therefore our intention to give a series of brief notices of all such publications as come into our hands, or are used by us as materials for the construction of the Third Part of this Journal. We shall arrange the Journals according to the countries in which they appear, or the languages in which they are written; and shall continue to notice a few in each number of the Review, until we have embraced the whole. This will be found, we suspect, not so easy a task as many of our readers, who have not paid attention to the fertility of the medical press in other countries, may be inclined to believe.

THE GERMAN JOURNALS.

Germany has always been famous for the activity of its press, in every department of literature; and in the number and variety of its periodical publications, of a scientific and literary kind, it takes precedence of all other countries. This statement is equally true in regard to our own profession, the number of books, pamphlets, and journals of all kinds that appear on medicine being immense. The extraordinary fertility of the German press, however, is not owing entirely to the superior desire of the German people for literary gratification, although this is at least equal to that of any other nation, but partly also to the vast extent of the countries in which the German language is spoken, their subdivision into so many independent states, and the consequent existence of so many rival universities and medical schools.

In speaking of the German medical journals in the mass, we must, in justice, bestow our approbation upon them. Almost all of them are edited by men of great learning, many of them by some of the most distinguished physicians and surgeons in Germany; and although, where the channels of communication are so numerous, there must often be a dearth of matter of real value or interest, still it is surprising how very much of sterling science and practical knowledge is to be found in almost every number of every journal. It is true that many of the journals are on a smaller scale than ours; and that the great learning of the editors enables them to make great use of the productions of their contemporaries in foreign countries: still the amount of original communications is very striking, and that they are often of no slight value and interest we trust the Third department of the successive numbers of this Review will evince. In making our selection for this department, we shall unquestionably have to set aside much that was hardly worth publishing, some things that are positively bad, and a good deal that would be unsuited to the taste of English readers; but, in making this statement, we are aware that it is equally applicable to the periodical literature of every country, and to none more so than our own. In conclusion, we are bound to confess, that until we were led by our duties as Journalists to examine, more critically and much more extensively than we had done before, the medical periodical literature of Germany, we entertained a disproportionate estimate of its worth. By way of amends, it will henceforth be no less our pleasure than it will be our interest, to endeavour to diffuse among our readers and the medical profession generally in these countries, a more thorough and extensive knowledge of the vast treasures possessed by our respected brethren in all the German states, than it was possible to obtain from any British publication before the establishment of this Review.

The actual number of Medical Journals now published in Germany cannot be stated with perfect accuracy, as new ones make their appearance, and others become extinct, in every quarter of a year. In Leopold Voss's Bibliotheca Physico-Medica, published in January last, the *Journalistik,* or bill of Scientific and Medical Journals for 1835, amounts to fifty-two, of which number thirty-seven are devoted to the various branches of medical science.

In noticing the Journals, we shall follow no particular order or arrangement, but take them as they first come to hand.

1.—*Journal der practischen Heilkunde.* Herausgegeben von C. W. Hufeland, und E. Osann. *Berlin.*

Journal of Practical Medicine. Edited, &c.

This is one of the oldest medical journals in Germany, and the name of one of its editors, at least, has been familiar to the medical profession in all countries, during upwards of half a century. The journal is of small extent, being in small 8vo., and containing only about eight sheets, or 128 pages in each number. It is printed in the Roman character, is published monthly, six numbers constituting a volume. The number now before us is for September, 1835, being the third number of vol. LXXXI. Like most of the German journals, it is not sold in single numbers, but by the year; and it costs, for this period, five rix-dollars and sixteen groschen (between fifteen and sixteen shillings *). It consists entirely of original communications, and has been the medium of conveying to the profession in Germany and other countries, during a long series of years, much valuable information. Hufeland and Osann's journal tells of its antiquity in the humble style of its paper and cover, and general mode of *getting up,* to use the bookseller's phrase.

2.—*Die Bibliothek der Praktischen Heilkunde.* Herausgegeben von C. W. Hufeland, und E. Osann. *Berlin.*

The Library of Practical Medicine. Edited, &c.

This little work, although sold separately, is, properly speaking, a part of the journal last noticed. It is in fact the *Review department* of the Journal of *Practical Medicine,* and contains no original communications. It is just half the size and half the price of its fellow, and is published at the same periods. It is printed in the Roman character.

3.—*Journal der Chirurgie und Augen-Heilkunde.* Herausgegeben von C. F. v. Gräfe, und Ph. v. Walther. *Berlin.* 8vo.

Journal of Surgery and Ophthalomology. Edited, &c.

This is also an old journal, the number before us being the second of vol. XXIII. It is needless to observe, that its editors are two of the most eminent men in Germany. Although noticing more particularly subjects of surgery and diseases of the eye, as its title imports, this journal by no means restricts itself to such, but often contains valuable papers on the other branches of the science, and many in practical medicine. Like many of the German journals, it frequently gives plates illustrative of subjects contained in it, but we must say that these are, in general, in an inferior style of art. The paper, and general appearance of the journal, belong also to the old school of journalism. It scarcely gives what are properly termed reviews of books, but it gives brief notices of many foreign works, and devotes a few pages to characterize, in a sentence or two, such books as are presented to the editors. It consists of from eleven to twelve sheets, or 180 or 190 pages; it is not published at fixed times, but four numbers at least appear annually, constituting a volume, which is sold for four dollars, or twelve shillings, nearly. It is in the Roman type.

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* The value of the German *thaler* (rix-dollar, or dollar,) is somewhat less than three shillings English, our pound sterling being worth 6¼ Prussian *thalers.*

4.—*Neue wissentschaftliche Annalen der gesammten Heilkunde.* Herausgegeben von Dr. J. F. C. Hecker. *Berlin.* 8vo. *Monthly.*
New Annals of Medical Science. Edited, &c.

This is a long established journal, having reached its thirteenth volume at the close of last year, when a second series commenced, indicated by prefixing the word *New* to the old title. Its editor is Professor of Medicine in the Berlin university, and is the well-known author of the histories of the Epidemics, so well translated by Dr. Babington. With the present series, a new numeration of the volumes began, and the number now before us is the second of the second volume, but for what month we cannot precisely say, as this journal, like many others of the German journals, contains on its title-page no nearer indication of its publication than the date of the year. The Annals of Professor Hecker is an excellent journal, and in every respect, mechanically as well as in a literary point of view, is executed with great taste and neatness. It is small, each number containing only about eight sheets, or 128 pages; four numbers constitute a volume, and cost two dollars sixteen groschen. It is arranged very distinctly, much on the same plan as the old Medical and Physical Journal of London, with a first department of original papers, and a second of critical notices. In general, the original communications do not exceed three or four in each number, but they are evidently well selected, and often of great value. The critical department is much more extensive, and takes in a wide range of subjects and languages. In the numbers before us we perceive reviews of recent works in Polish, Italian, French, and English, besides German; and we observe that the editor pays particular attention to English works, as we find in these numbers pretty full reviews of the recent works of Hope, Lee, Wardrop, Carswell, &c., the authors of which articles exhibit a perfect acquaintance with the language in which the books are written, as well as with the subjects of them. We shall not be able to transplant into our pages a great variety of matter from the pages of Dr. Hecker's Annals, but what we find there we confidently expect to be good.

5.—*Medicinische Jahrbücher des kaiserl. königl. Österreichischen Staates.* Herausgegeben von Dr. A. J. Freyherrn von Stifft, und redigirt von Dr. Joh. Nep. Edlen von Raimann. 8vo. *Wien.*
Medical Annals of the Austrian Empire. Vienna. Edited, &c.

This journal is edited by Drs. Stifft and Raimann, physicians to the emperor of Austria, and they number among their *collaborators* many or most of the medical, surgical, and veterinary professors of the university of Vienna. Each number contains about ten sheets, or 160 pages. It is neatly printed in the Roman type, on middling paper, and is altogether pretty well got up. It appears monthly; six numbers complete a volume, which cost four dollars eight groschen.

These Annals bear somewhat of an official stamp, and contain:—1. Official regulations concerning medical police, and the study of medicine. 2. Accounts of the public health, and of the statistics of the Austrian empire, including minute details respecting the performance of vaccination. 3. Accounts of the prevailing type of disease. 4. Observations in natural history. 5. Medical essays and cases. 6. Reviews of books.

Some of the official rescripts are curious enough: thus, in pursuance of the decree of the court of Chancery of the 31st October, 1833, the use of plum kernels is forbidden in the manufacture of imitation coffee, as being unwholesome; and in another place, the importation of Dr. Struve's artificial mineral waters is prohibited, without any reason being assigned.

Among the peculiarities of this journal we may reckon the large space devoted to statistics, and medical police and jurisprudence; as well as the fact of its being limited to Austrian medicine; this limitation extends, though not without a few exceptions, even to the notices of books. Hence the reviewers, being cramped in their choice of subjects, take account of inaugural theses, &c. &c.

The *Medical Annals of the Imperial and Royal Austrian State* will furnish us with many valuable articles for our third department.

6.—*Allgemeines Repertorium der gesammten deutschen Medizinisch-chirurgischen Journalistik.* Herausgegeben von C. F. Kleinert, M.D., Ausserordentlichem Professor der Medizin an der Universität zu Leipzig, &c. 8vo. *Leipzig. Monthly.*

General Repertory of the whole Medico-chirurgical Journalistics of Germany. Edited, &c.

We are obliged to coin a word, to give even a bad translation of the title of this singular and truly German journal, with a brief account of which we shall, for the present, conclude our notices of the periodical medical literature of Germany. This is a large journal, and professes nothing less than to give an epitome of the whole original matter of all the German medical journals, which amount to at least forty; exclusive of a dozen more, devoted to the various sciences. The *Repertorium* has existed nine years. It is published monthly, and the number now before us bears the date of *August;* but, by a postscript, we observe that it was not in reality published until the 9th of October, and as the other numbers bear similar rectifications, we must infer that the industry of even a German editor may find tasks too hard for it. It is published in monthly parts, each part containing about eleven sheets and a half, or 184 pages, and every number has its own numeration of pages. The twelve monthly numbers, constituting the *Jahrgang*, cost seven dollars.

The plan of this journal is really excellent, and it must be extremely convenient to those who wish to know what is going on in the wide field of German medical literature, and find it impossible to refer to all the original publications. We would therefore recommend it to such of our readers as take an interest in German literature, and only desire to take in a single journal. It is precisely on the same plan as the English journal published some years since in London, entitled, *The Medical Intelligencer.* Each journal is taken in turn, and every paper in each journal is epitomized with much fidelity, and, it must be, with great labour and industry. The inferior articles are passed over slightly, but of the best communications the analysis is frequently so full as to convey all that is really of importance in the original.

To give a more precise idea of the way in which this journal is composed, we may state, that of the two last numbers now before us, that for *July* devotes 25 pages to *Rust's Magazin;* 26 to *Clarus und Radius's Beiträge;* 18 to *Pfaff's Mittheilungen;* 6 to *Schmidt's Jahrbücher;* 20 to *Dzondi's Aeskulap;* 12 to *Trousseau's Allgemeines Journal;* 24 to the *Medizinische Zeitung* of Berlin; and 26 to the *Austrian Jahrbücher;* while that for *August* gives 9 pages to *Müller's Archiv;* 10 to the *Annalen der Pharmacie;* 20 to *Clarus und Radius's Beiträge;* 15 to *Pfaff's Mittheilungen;* 30 to *Horn und Wagner's Archiv;* 20 to *Von Ammon's Zeitschrift;* 30 to *Von Gräfe und von Walther's Journal;* 27 to *Gerson und Julius's Magazin;* and 16 to the *Medizinische Zeitung.**

We shall sometimes avail ourselves of the compendious information supplied by the Repertorium, more particularly in regard to such journals as do not come at all into our possession, or reach us irregularly, or too late.

ITALIAN JOURNALS.

Italy, like Germany, possesses a *Journalistik* very large in relation to its population, and partly owing to the same causes, viz. its subdivision into various states, and the great number of its rival universities and schools of medicine. A good deal also depends on the activity and zeal with which medicine is cultivated in Italy. Including those of Sicily, the number of journals now published in the Italian language may amount to about fifteen or twenty. We shall, at present, only notice two or three of these; and indeed we have to lament the great difficulty with which they are obtained in England. At least we are still *expecting* several which were ordered more than six months since; and we find that some of our friends, readers of Italian, have been equally unfortunate in their commercial speculations. Owing to the existence of so many different states in Italy with different laws and fiscal regulations, the conveyance of packets and letters from one part of the peninsula to another is extremely uncertain, and even the ignorance in one state or city of what is doing in another at no great distance, is very remarkable. It is too true, as our respectable bookseller at Florence, Signor Molini, writes to us, that "a Roma non si sa cosa si fa in Napoli; a Milano s'ignora quel che si fa in Roma."

In speaking of such of the Italian journals as we have had an opportunity of examining, we are bound to confess, that, taken as a whole, they are inferior in value both to the French and German journals. Although we have too much reason to criticise the occasional verbosity, fanciful hypotheses, and inconsequential reasonings to be met with in those last named, we are sorry to say that the Italians are, if any thing, still more verbose, more fancifully hypothetical, and more inconsequential. Numerous exceptions, however, are to be met with, and we doubt not but we shall from time to time have to present to our readers, among our selections from the Italian journals, papers which would do honour to the profession in any country.

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* Besides the analysis of the journals, each number of the Repertorium contains a classified catalogue of all the books reviewed in the various journals, with occasional brief notifications of the opinions of the reviewers.

1.—*Antologia Medica.* Di Val. L. Brera, D.M.C., &c. &c. *Venezia. Monthly.*

Medical Anthology. Edited, &c. *Venice.*

Properly speaking, this journal ought not perhaps to be entered in our list, as, although only commencing with 1834, it ceased to be published last summer, in consequence of the illness of the editor, but it is probably once more in existence, as a new series of it has been announced for publication in January, 1836. Our readers need not be told of the eminence of the editor, as his name has been familiar to the profession for many years past; and when we state that the enunciation of his honorary titles literally fills one whole close-printed page of his journal, it will be allowed that his eminence has not been overlooked by his brethren in foreign countries. He was long professor at Padua, but has been within these few years removed to Venice. The Antologia is a sort of continuation of journals formerly published by the editor in other parts of Italy. It is a large journal, published monthly, and consisting partly of original communications, and partly of reviews of books. It has hitherto contained a good many original papers, some of considerable value; and perhaps it may be regarded, on the whole, as one of the best of the Italian journals. Its form is what our booksellers term royal 8vo.; each number contains about six sheets, or 100 pages. Six numbers constitute a volume, and are sold for fourteen Austrian *lire.* The number for January, 1834, contains a fine portrait of the editor. We shall notice the new series of the Antologia on its appearance.

2.—*Annali Universali di Medicina.* Compilati dal Signor Dottore Annibale Omodei. 8vo. *Milano.*

Universal Annals of Medicine. Compiled, &c.

This is the best known, and one of the oldest, if not the oldest of the Italian journals.* It must also be regarded as one of the best, although it frequently contains much more matter in appearance than in reality. Like many Italian books, the margin is vastly disproportioned to the printed *form*, the paper being royal 8vo., the book only small 8vo. It is published monthly at Milan, each number consisting of about twelve sheets, or 192 pages. Three numbers form a volume, and the four annual volumes are sold at the place of publication for thirty-six Austrian *lire.* It consists of original memoirs, reviews, and selections from other journals, foreign and domestic. English literature is not overlooked: for instance, the number for August, 1835, now before us, contains one of Dr. Stokes's excellent lectures on nervous diseases, delivered in

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* The number now on our table is 225, being the last of vol. LXXV.

Dublin, in the winter of 1833-4, and published in the Medical and Surgical Journal, also a pretty full review of the first part of vol. XVIII. of the Medico-Chirurgical Transactions of London. We are sorry to say, that the recent numbers which we have seen of the journal do not contain much original matter of importance. We have, however, derived something from them for our department of selections, and expect to continue so to do.

3.—*Giornale delle Scienze Medico-Chirurgiche.* 8vo. *Pavia.*
Journal of the Medico-Chirurgical Sciences.

This journal only commenced in July, 1834, and we have received the first nine numbers of it. It is published monthly at Pavia, and is of small size, containing only three sheets, or forty-eight pages, and costing, at the place of publication, only seven Austrian *lire* per annum.

It is on the more common plan of medical journals, composed partly of original communications, partly of reviews of books, and partly of selections from other journals, foreign and domestic. Hitherto this journal has not presented in its pages much original matter of importance. The name of the editor is not given.

FRENCH JOURNALS.

Although the whole of the journals published in the German language exceed very considerably in number those published in French, or any other language, still we believe the medical journals of France are much more numerous than those of any other single nation. Compared with those of our own country, the number and variety of the medical journals published in France must appear very striking; and we here call attention to the fact, as an important indication or illustration of the difference of national character, as well as of the difference in the habits, tastes, and feelings of the members of the medical profession in these two neighbouring nations. In giving the catalogue of the French journals, we regret that it is not in our power to state the number of copies of each published, as it is only by knowing this that any just conception could be formed of the relative number of medical readers in the two countries. We think, however, it will not be doubted for a moment by those who peruse the two following lists of the journals published in the United Kingdom and Paris alone, that the numbers at least are greatly on the side of our neighbours. As we cannot adduce the number of copies published of the French journals, we shall refrain from stating what is, or is supposed to be, the circulation of the British journals.

BRITISH JOURNALS.

	Price per Annum.	
	s.	d.
Quarterly.		
1. The Edinburgh Medical and Surgical Journal	24	0
2. The Medico-Chirurgical Review	24	0
Once in two Months.		
3. The Dublin Medical and Chemical Journal	21	0
Weekly.		
4. The Lancet	34	8
5. The Medical Gazette	34	8
6. The London Medical and Surgical Journal	26	0

FRENCH JOURNALS.

		Francs per Annum.
	Annual.	
1.	Répertoire Annuel de Clinique Médico-Chirurgicale	8
	Quarterly.	
2.	Mémoires de l'Académie Royale de Médecine	20
3.	Annales d'Hygiène et de Médecine Légale	26
	Monthly.	
4.	Archives générales de Médecine	26
5.	Archives de la Médecine Homœopathique	18
6.	Journal et Bulletin de Pharmacie	15
7.	Journal de Chimie Médicale, de Pharmacie et de Toxocologie	14
8.	Revue Médicale Française et Etrangère. *Paris.*	27
9.	Bulletin Bibliographique des Sciences Médicales	3
10.	Journal des Connoissances Médicales	6
11.	Journal des Connoissances Médico-Chirurgicales	10
12.	Journal de Médecine et de Chirurgie pratiques	10
13.	Journal de Pharmacie et des Sciences accessoires	15
	Once a Fortnight.	
14.	Bulletin de Thérapeutique Médicale et Chirurgicale	15
	Weekly.	
14.	Journal Hebdomadaire des Progrès des Sciences Médicales	20
15.	Gazette Médicale de Paris	40
16.	Journal de Santé, à l'usage des gens du monde	10
	Three times a Week.	
17.	La Lancette Française, Gazette des Hôpitaux	36

Considering the Parisian journals generally, we feel bound to say that they exhibit a great deal of talent, and a still greater degree of zeal in the writers and editors. Many of them contain a regular succession of original memoirs of extreme value, both in a scientific and practical point of view, and all of them present us, from time to time, with papers of much interest. Not a few of them, it must be allowed, publish much which can be interesting to few but the writers; and a still greater number exhibit frequent specimens of speculations or surmises announced as facts, of visionary hypotheses recorded as theories, and of inferences and conclusions most lame and impotent: still it is true, as already stated, that, taken as a whole, the periodical medical press of Paris is not only conducted with great talent, but fraught with an infinite deal of practical knowledge, and powerfully promotive of the progress of every branch of medical science. The department in which it is most defective, and in this respect the whole continental periodical press is in the same predicament, is that of *reviewing*. In this particular, the British journals are greatly in advance, and, indeed, the continental nations do not seem fully to understand this branch of literature, as it is practised in England. At least we have never met with a work, in any of the continental languages, whether in the class of medicine or otherwise, which in point of fulness or variety could be justly put in competition with British works of the kind now referred to: we think this a serious deficiency, and doubt not it will be remedied ere long. Some of the German journals come nearer the British standard of Reviews, and we may name, as of this class, the very excellent journal of our learned correspondent Dr. Hecker, of Berlin, the "Neue wissentschaftliche Annalen der Gesammten Heilkunde."

Before closing these few preliminary remarks on the French journals, we must notice a publication which, whatever may be thought of the principles concerned in its establishment, will probably tend more than any thing else to introduce them to foreign countries; we refer to the *Encyclographie des Sciences Médicales*, now pretty well known in this country. This is nothing less than a complete republication of all the French medical journals in a single volume, issuing in monthly volumes from the Brussels press, and sold at the cost of five francs and a quarter each, or about three guineas per annum in this country. The work is printed in the largest royal 8vo. form, with a small type, in double columns, and averages about from eighteen to twenty sheets, or from 280 to 320 pages each volume. The Encyclographie is edited by Dr. Marinus of Brussels, the editor also of a Belgian Journal (Bulletin Médical Belge) circulated under the same cover as the Encyclographie.

At present we shall only notice two or three of the French journals which happen to lie on our table, in their original form, not in the uniform livery of the Encyclographie.

1.—*Revue Médicale, Française, et étrangère, et Journal de Chirurgie, &c.* Par une Réunion de Professeurs, &c.

This journal is published monthly, three numbers forming a volume. It has been established fifteen years, and is a work of much value. It is composed of four or five departments, viz. original memoirs, analyses of books, bibliographical notices of books, notices of the foreign journals, and varieties, domestic and foreign. Many of the original memoirs are excellent, and although the reviews of books are in general too brief, and not sufficiently critical, still the journal, in accordance with its title, certainly gives a more complete account of published works than most of the other journals; and it would be doing injustice to the eminent writers employed in it (and whose names, as is usual on the continent, are subscribed to their articles,) to deny that many of their analytical memoirs are executed in a very excellent manner, and with a praiseworthy spirit of impartiality.

2.—*Archives de Médecine, Journal complémentaire des Sciences Médicales.* Publié par une Société de Médecins.

This is also a well established journal, and one of much merit. It commenced in 1823, and is published monthly, each number containing about 130 or 140 pages, and four numbers constituting a volume. It is, on the whole, arranged on the same general plan as the *Revue*, but contains more original matter, and a less extensive bibliographical department. Its original memoirs are often of great value. Like the *Revue*, and many of its contemporaries in France, as well as in Germany and Italy, the Archives often gives lithographic plates to accompany the memoirs contained in it; but we are compelled, by a regard for truth, to say that these are, in general, not at all proportioned in point of merit to the letter-press they are intended to illustrate, and are, in fact, quite unworthy of the present state of the arts in the French capital.'

3.—*Gazette Médicale de Paris.*

This is a comparatively recent publication. Two other journals, the *Gazette de Santé*, and *Clinique des Hôpitaux*, have been incorporated with the Gazette, which appears weekly in the form of a large 4to. sheet of double columns, and without any wrapper. It is edited by M. Jules Guérin. It is a well conducted and excellent journal; nearly on the plan of our own weekly journals, only that it does not publish the lectures, ex cathedrâ, of the professors. To make up for this, it gives very full and sometimes very interesting reports of the memoirs presented to the *Académie des Sciences*, and the *Académie de Médecine*, and of the discussions thence arising among the members of these learned bodies. The Gazette always contains original memoirs, and its *leading article*, as it is called, is generally one of value. It gives a few brief notices of the books published in France, and is remarkable among the French journals by the copiousness of its selections from the foreign journals, particularly those of Germany and Italy. It is from this source that much of the information concerning the medical literature of those nations is conveyed, at second-hand, to this and other countries. As might be looked for from a journal making its appearance after such brief intervals, the *Gazette* properly enters somewhat into the medical politics and professional gossip of the day, but with much restriction and good taste; and indeed it is but a just compliment to the medical periodical press of Paris, to include the whole in this category. In this respect, we are afraid our own periodical literature, general and medical, will derive no credit from a comparison with that of our neighbours. They certainly exceed us in the warmth of their scientific controversies; but we are more personally quarrelsome and bellicose than they are; and in this, we humbly conceive, we derogate from the dignity of the noblest of the sciences.

4.—*La Lancette Francaise, Gazette des Hôpitaux.*

This journal, like the *Gazette*, is in quarto, but instead of appearing weekly in whole sheets, or one sheet and half, it comes out in half-sheets three times a week. Its price is 36 francs a year. In accordance with its title, borrowed, no doubt, from the English journal of that name, the *Lancette* takes much more account of the proceedings at the hospitals than the other journals. It gives numerous cases, contributed by the resident pupils, and likewise frequent abstracts of lectures, for the most part clinical, but sometimes general; but it never supplies such complete courses of lectures as its namesake, and the other weekly journals of London. It gives regular reports of almost all the hospitals in Paris, and particularly of their clinical departments, besides containing some original memoirs by the seniors of the profession. These are, however, comparatively rare; and although this journal is well conducted, and contains much matter of temporary interest, still as it is more calculated to supply the materials for good memoirs than good memoirs themselves, we shall probably draw less from its pages than from some other works of much less interest and indicating less extent of knowledge on the part of their conductors.

5.—*Annales d'Hygiène et de Médecine Légale.*

This journal has existed seven years, and is one of the most valuable published in any country. It is supported and conducted by some of the most able physicians and physiologists of Paris, the names of fifteen of whom are publicly announced. It is published quarterly in octavo, and costs eighteen francs per annum. It seems carefully restricted within the limits contemplated in its title, and contains almost always more than one memoir of decided value and interest. This will be understood when we state that the few last numbers now before us contain communications from Esquirol, Marc, Devergie, Chevallier, Barruel, Orfila, Parent-du-Chatelet, Lombard, &c., and from scarcely any one else. The departments of Hygiene, Medical Jurisprudence, and Medical Statistics, being, in our opinion, of extreme importance, and very inadequately cultivated in this country, we shall draw largely in our *selections* from this journal. We would most willingly recommend to some of our medical brethren the establishment of an English journal on the same plan as the French publication, or rather with the addition of the department of medical statistics; but we are afraid that the taste for medical literature, and medical reading, is not at present sufficiently cultivated or sufficiently general in this country to authorise the risk of such a publication. We trust, however, that the taste is merely in abeyance, not actually wanting; and it has been one great object in the establishment of our own Journal, and will be the constant endeavour of its conductors, to keep in view the extension and improvement of the taste for the better and more substantial parts of medical science.

DANISH JOURNALS.

We are at present less acquainted with the journals published in the ancient language of Denmark than we could wish, and than we hope to be. It will not be expected, from the small extent of the countries in which the Danish language is spoken, that the medical journals are numerous. We have as yet only received the three of which we shall here give a brief notice: we are unacquainted with their actual number.

1.—***Bibliothek for Læger.* *Udgivet af Directionen for det Classenske Literaturselskab.*** Redigeret af dens medlem C. OTTO, M.D., &c. Small 8vo., *Kjobenhaven.*

Library for Medical Practitioners. Edited by Professor OTTO. *Copenhagen.*

Although the journal itself is but little known in this country, the name of its editor is familiar to medical readers in all countries. The journal has been published in its present form since the year 1821. It comes out quarterly, in the form of a small octavo, or large duodecimo, of about 280 pages, and two numbers constitute a volume. It seems a remarkably well planned and well conducted journal. It consists partly of original communications, and partly of extracts from foreign journals, about one half of the number being devoted to each subject. The original communications seem to be valuable, and the extracts carefully selected, and well arranged. We shall certainly profit from the former, by transplanting some of them to our Third department; and we may profit also in the arrangement of this department, by adopting some of the learned editor's plans. The extracts are made from the German, French, Italian, and English journals. In the numbers before us we observe no reviews or notices of Danish books. In the department of *medical intelligence* at the end of each number is a list of the candidates for licences, who have undergone examinations at the university in medicine, surgery, and pharmacy; and we observe, attached to each name, the candidate's place of residence, and the judgment formed by the examiners of the respective merits of the parties, as shown in their examination. The certainty of this last announcement must, we should think, have some effect on the conduct of the students, previously to going up for examination; as, however pleasant it might be to *Claus Jacob Emil Hornemann*, to see his performance spread throughout the Danish dominions as "laudabilis unanimi consensu," and although even *Hendrik Carl Meinig Oviding* might not be ashamed to have his examination characterized as *laudabilis;* we do suspect that our less fortunate friends, *Christian Drejer*, and *Anton Hermann Gravenshorst*, must with less satisfaction see themselves recorded in the pages of our learned contemporary, with the very dubious compliment of *haud illaudabilis.*

2.—*Journal for Medicin og Chirurgie. Udgivet og redigeret af Bendz, Haugsted, &c. Kjobenhaven.*
Medical and Surgical Journal, &c. Copenhagen, 8vo.

This is a new monthly journal, which commenced January, 1833; we presume that it is still continued, though we have not seen any recent number. It is a small journal, consisting only of six or seven sheets, or about 100 pages. It is published monthly, and four numbers form a volume. It contains original communications, "Hospitals-klinik," reviews of books, selections from foreign journals, and medical intelligence of various kinds. Among other original communications, we observe some by professor Bang; and among the foreign articles we see extracts from the Edinburgh Journal and the Lancet, and from some of the French journals.

3.—*Eyr, et Medicinsk Tidsskrift. Christiania.*
Eyr, a Medical Journal.

Although a Danish journal, *the Eyr* is published in Norway, being edited by professor Holst, of Christiania. It has existed since 1826, and has now reached its tenth volume. It is published quarterly, in small octavo numbers, of from 100 to 120 pages, four of which compose the annual volume. It consists principally of hospital reports, and other original communications, which we hope to profit by, more particularly in the statistical section of our selections. We may mention that the word *Eyr* is the name of an ancient Scandinavian deity, having some relationship, at least in function, to the Grecian Hygeia.

AMERICAN JOURNALS.

The energetic character of the American people, which we feel proud to regard as derived from the same common ancestry as ourselves, and the astonishing progress made by them during the last half century in all the arts and sciences, are no less conspicuous in the actual state of medecine in the United States, than in any of the other branches of human knowledge and social amelioration. Were it not, however, that we are conscious of a firm resolution to make the state of medical science among our North American brethren better known, and more justly appreciated in England, we should almost be ashamed to confess how little we ourselves knew of it, and how little is really known of it by the great majority of even our best informed physicians and surgeons. While the medicine of France is familiar to most men of any education among us, and that of Germany and Italy is known, partially at least, to many of the learned physicians and surgeons of Great Britain and Ireland, particularly the junior members of the profession, the condition of our science throughout the vast territories and in the immense cities of the United States, although recorded in our own language, and cultivated in the same spirit as by ourselves, is scarcely known to us at all. A striking proof of this is afforded by the fact that in some recent histories of medicine published in this country by men of the very first talents and acquirements, scarcely any notice whatever is taken of America, or of the improvements or discoveries for which we are indebted to American physicians and surgeons. An equally striking evidence of the same fact is supplied by the extremely limited importation into this country of books published in America, and by the non-circulation of American journals among us. The converse of the proposition, viz. the extreme eagerness with which English books are received in America, is no less strikingly illustrated by the well-known fact that all good works on British medicine are not only imported into but are immediately republished in America, and circulated in vast numbers. One of the works reviewed in our present number, Dr. Clark's Treatise on Consumption, although not long published in this country, has been already reprinted in America; and another work of which a review was prepared for the present number, but which the pressure of other matter has obliged us to postpone to our next, Dr. Combe's admirable work on Hygiene, has not only been reprinted in America, but circulated to the amount of 10,000 copies. The Medico-Chirurgical Review has been for some years regularly reprinted in America, and enjoys, we believe, an extensive circulation in that country.

The zeal with which medicine is cultivated in America is equally manifested by the number and variety of the medical journals published there; and we are bound in fairness to add, that the original communications and criticisms contained in such of them as we have met with, sufficiently prove that it is not a zeal without knowledge.

Having occupied so much of our space in these general remarks, we shall be able, on the present occasion, to refer particularly to only one or two of the American journals. We may, however, give the titles of several others.

1.—*The American Journal of the Medical Sciences.* Edited by ISAAC HAYS, M.D. *Philadelphia.* 8vo.

This is the American journal best known in England, and is, we believe, one of the best published in America. It is published quarterly, in large handsome numbers, containing eleven or twelve sheets each, and sold in America at five dollars per annum. The periods of publication are February, May, August, and December. Two numbers constitute a volume. The last number that has reached us is XXXII., published in August last, and constituting the second part of the sixteenth volume. The American Journal is divided into four departments, containing original communications, reviews, bibliographical notices, and a quarterly periscope, or selections from foreign or domestic journals. In all these departments, the plan and the execution are alike exemplary. Many of the original communications are valuable, although too many of them consist in the detail of cases to please us. The reviews are in general good, sometimes excellent, and the bibliographical notices, whether of

American or foreign works, seem for the most part impartial, and neatly executed. The periscope, or department of selections, is also well arranged and judiciously filled.

2.—*The North American Archives of Medical and Surgical Science.* Edited by E. GEDDINGS, M.D., Professor of Anatomy and Physiology in the University of Maryland. *Baltimore*, 8vo.

This is a new journal, or rather a new series of a journal, by the same editor. It commenced in October, 1834, and has just completed what the Germans call its first *Jahrgang* with great eclat, and we believe with much success. We are sure that it deserves success. The Archives is not only excellent in plan, but is supplied with much valuable matter, and is certainly one of the neatest and best got up journals we ever saw. Its paper and print are beautiful, and its cover almost too gay for the severity of republican taste. The journal is published monthly; each number consists of four or five sheets; six numbers form a volume, and the annual subscription is five dollars. It comprises the following departments: 1. Original communications. 2. Articles selected, entire or abridged, from foreign journals. 3. Analytical and critical reviews and bibliographical notices. 4. Collectanea, medical intelligence, &c. Our present number contains sufficient proof of the value we set upon this journal, and we have little doubt but we shall often recur, with advantage, to its pages.

The following are the titles of some of the other American journals, of which we hope to give some account in our subsequent numbers.

1. The Boston Medical and Surgical Journal.
2. The United States Medical and Surgical Journal.
3. The Boston Medical Magazine.
4. The Transylvania Journal of Medicine and the Associate Sciences.
5. The Western Medical Gazette.
6. The Western Journal of Medical and Physical Sciences.

In concluding these very imperfect notices of some of our foreign contemporaries, we take this opportunity of stating that we shall be happy to exchange the British and Foreign Medical Review with any Journal, the editors of which may be pleased to transmit it to our London publishers or to their agents, free of expense. The foreign agents named on our cover are authorized to negotiate this exchange for the journals of their respective countries. It is the anxious desire and earnest hope of the Editors of the British and Foreign Review to make it a freer medium of communication, and a closer bond of union, between the members of the medical profession in all civilized countries, than has hitherto existed. It is most delightful to all who cultivate the arts of peace, to live in times when the nations of the earth may freely communicate with one another without restraint or difficulty; and it is doubly delightful to those who, like the members of our profession, are striving only for what is good, to find themselves associated in their labours with the virtuous and the wise of every land, differing indeed in the external and unessential characters of language, customs, and civil polity, but identified in the common desire to improve the physical, moral, and intellectual condition of man, and, consequently, to augment the happiness, and exalt the dignity of the human race.

PART THIRD.

Selections from Foreign Journals.

ANATOMY.

On the Structure of Cartilage and Bone in the Human Subject. By W. and F. ARNOLD.

[THE distinguished authors of the present memoir have been long occupied in investigations concerning the texture of the different parts of men and animals, both in the state of health and disease; and, in the paper now before us in the last number of the admirable journal of Tiedemann and Treviranus, they communicate the results which they have obtained respecting the intimate structure of cartilage and bone. The authors inform us that the results as to the structure of bone in adults were obtained by them as early as the spring of 1833. We insert a complete and literal version of this important document, illustrated by accurate copies of the engravings which accompany it in the original.]

1. The true or permanent cartilages in the fœtus of the third, fifth, and seventh month, on the ends of bones, joints, and ribs, consist of numerous granules, apparently of somewhat denser consistency than those in the primary texture of bodies, (bildungsgewebe)*, and placed, for the most part, without any order, near to and over one another.

2. The cartilage from which the bones are subsequently formed, exhibits likewise under the microscope numerous small granules; but these, in particular points, are more closely approximated, so as to leave distinct spaces and tracts between them. These are the more conspicuous, the more advanced the change of the cartilage to bone; but in the cartilages of joints they are less distinct.

3. In those points of the cartilages where the ossification begins, we perceive, on the borders of the bone, the granules united in groups, and distinct spaces between them, which spaces are, for the most part, quadrangular, quintangular, or sexangular. The commencement of the ossification is shown by the appearance in the open spaces of a dark, entangled, arborescent mass, consisting of numerous granules. This and the preceding result we have obtained from comparative experiments on several sections made successively from the cartilage of the joints up to true bone, and taken from the humerus, the radius, the femur, and other hollow bones. By compressing between two glass plates the cartilage which is the matrix of the future bone, and still more, at the period of osseous transformation, we can distinguish a fibrous structure in the separating and disuniting portions; that is to say, fibres are observed to be separated and numerous granules are disjoined, but it is impossible to ascertain with certainty the nature of the fibres, namely, whether they consist of rows of united granules or are tubular.

4. In adults, cartilage appears under the microscope as a white mass composed of granules irregularly heaped together. This mass contains interspaces, which are, for the most part, four, five, or sexangular, but irregularly so; and sometimes they are more of a rounded, oval, or other form. We also observe in them little masses of compressed vesicles of different sizes, of a round or oval shape, and which appear to be, at least in part, adipose vesicles.

5. In the different sorts of cartilage the arrangement is somewhat different. For instance, in the cartilages of joints, the spaces are not always angular, but frequently roundish, oblong, or of no regular form. In the cartilages of the ribs they appear

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* We are by no means certain that we have given the exact meaning of this word.

angular, sometimes regular, sometimes irregular, and with four, five, or six angles. In the cartilage of the ear the spaces are mostly oval. The thyroid cartilage appears uniform with that of the ribs, only the interspaces are in the former more rounded and less regular; and we found in the body of a man, forty years of age, here and there in the thyroid cartilage fibrous points, somewhat darker than the rest of the mass; apparently incipient ossifications. The ligamentous cartilages (band-knorpel) consist of numerous granules, constituting a tolerably uniform mass; but, even here, we remark some points more distinct and of a darker colour, arising probably from the stronger or weaker cohesion of the granules.

6. In the bones of adults, treated with dilute muriatic acid, we observe in thin, transverse sections, placed under the microscope, 1. Interspaces of different form and size; 2. Fibres which lie, for the most part, in the same direction as those spaces; 3. Granules constituting those fibres and also contained in the interspaces, in greater or less number, and placed with more or less regularity; 4. Dark masses between the fibres, which appear, and indeed are, by the test of pressure, proved to be formed of minute granules.

7. In the different kinds of bones, the long, short, and flat, and in both the kinds of substance of which they consist, the arrangement of the above-mentioned parts is very different. In the external more compact substance of the hollow bones, the interspaces are round, ovoid, oblong, and also frequently of an irregular shape; consequently the fibres, consisting of rows of granules, (and deriving a jointed appearance from this circumstance,) are, in like manner, observed to have a varying course; and this almost always becomes irregular at the point where the fibres encircling the interspaces unite. This feature is not so distinct in a longitudinal as in a transverse section; in the latter, the spaces appear formed irregularly, and the granules not arranged in rows in a determinate manner. The interior cellular portion of the hollow bones is distinguished from the exterior more compact substance by the circumstance, that, in the former, numerous granules lie round about the individual spaces, and are only in particular spots united formally into fibres. Away from the spaces, the granules exhibit an irregular congeries. In the short bones, and especially in the bodies of the vertebræ, a like configuration is observable. In the flat bones, as in the skull, we perceive numerous spaces of some extent, irregular, or of an oblong form. The bony substance inclosing these spaces is also composed of numerous granules united together. They are less regularly disposed in fibres than in the hollow bones; still, even here we detect an approach to the fibrous structure in the row-like disposition of the granules, although many of them are irregularly heaped together.

8. In the open spaces described we very frequently observe a somewhat spongy or cellular mass, which partly fills them up. This mass consists of numerous granules, which towards its centre are crowded together without any order, but which at the borders of the spaces, as also at the points where it approaches the formal bony matter, are arranged pretty regularly in a fibrous manner, so that there is a gradual transition from this cellular mass (which can be separated from the interspaces, and seems only distinguishable from the true bony substance by its greater sponginess) into the other or proper bone.

9. Cartilages when converted into bone present the same appearances as true bone, for instance, those of the larynx and ribs; as here also we discover many granules, partly united to form fibres, and also some dark points. [Plate I.]

[The authors further state, that they convinced themselves of the existence of granules in the cartilages and bones of the fœtus and adult, not merely by the fact of a quantity of granules being separated, or even the whole mass comminuted into distinct granules, when thin slices were pressed between glass plates;—but also by this, that they could verify the existence of numerous granules in the fluid surrounding the object, of precisely the same diameter (viz. $\frac{1}{400}-\frac{1}{500}$ P.L.—Paris lines ?) as the former. They conclude their memoir by stating that they reserve to a future opportunity the application of the results of the foregoing investigations, to the doctrine of nutrition, the mode of growth of bone, and the conversion of cartilage into bone.]

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British and Foreign Medical Review Vol. I.

Plate 1.

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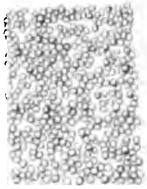

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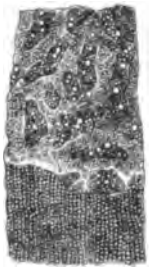

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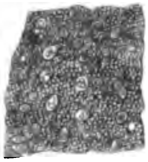

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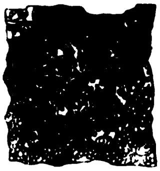

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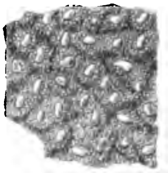

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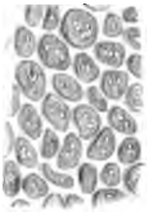

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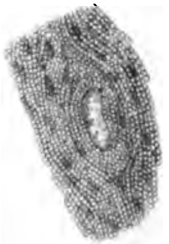

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Description of Plate I.

All the figures are magnified 225 times their natural size.

Fig. 1. Cartilage of the rib of a fœtus of the fourth month. In this we may observe a superficial series of granules, and others lying deeper.

Fig. 2. Transverse section of the cartilage of the rib of an adult of 40. One portion still remains complete cartilage; the fibrous structure of another part distinctly shows itself to be somewhat ossified.

Fig. 3. Section of the cartilage of the lower end of the femur of an adult.

Fig. 4. Longitudinal section from the back part of the cricoid cartilage, from the same subject.

Fig. 5. Longitudinal section of the cartilage of the ear, from the same.

Fig. 6. Oblique section of the radius of a fœtus of the fourth month, in which the transition of cartilage into bone may be perceived.

Fig. 7. Oblique section of the compact substance of the tibia of a boy several years old.

Fig. 8. A scale from the spongy portion of the same bone.

Tiedemann und Treviranus' Zeitschrift für Physiologie, B. v. H. 2, 1835.

On the Modifications of Structure in the Thorax and Lungs, produced by Age.
By MM. HOURMANN et DECHAMBRE.

[THE peculiarities of the diseases of the old have not been minutely attended to, although they have been recognized. The authors of this memoir have endeavoured to investigate the subject, and the field of their observations was the large institution in Paris which is set apart for indigent old women; their remarks consequently relate to the female sex only. With the excellent principle in view, that a knowledge of the changes which age produces in the texture of the various organs, and in the mechanism of their functions, is necessary to the explanation of the peculiar character of their diseases, they commenced with the study of the organs of respiration. To these organs their attention was first directed from the frequency of diseases of the chest, their severity, particularly when acute, and in this case the irregularity of their symptoms, which often baffle the most carefully formed diagnosis. The following is a condensed translation of the anatomy of the respiratory apparatus of old women, as given by our authors.]

1. *Thorax.* There are two different conditions. (1.) A certain number of old women retain a fresh appearance, colour in their cheeks, suppleness of the skin, few, and not deeply-marked wrinkles. Their breasts are voluminous, generally pendant, but sometimes firm. The whole thorax is covered with a layer of fat, the muscles are well nourished and vividly red, the cartilages of the ribs retain some of their whiteness and elasticity: in some cases not one is ossified. There is but little change in the texture of the sternum and ribs. In some cases there is some lateral flattening of the upper part of the chest, augmenting the antero-posterior diameter at the expense of the transverse, so that anteriorly it appears very narrow between the armpits. The base however is large, so that it looks like a truncated cone. Sometimes there is another contraction, which is less marked, about the level of the eighth rib. Both contractions, however, are more evident in the second form.

(2.) This is the most frequent; the other evincing a vigorous condition, which is an exception. The lateral and superior flattening is carried to an extreme degree, as has been noticed by Soemmering. The posterior curve of the ribs is consequently increased, forming a marked round or angular prominence on each side of the dorsal spine. When unequal and on both sides it is often attributed to lateral curvature; and when unequal on one side, forming an uneven surface, it impedes immediate auscultation. From the mobility of the sternum it is carried forwards, so that the anterior part of the chest looks as if formed by two inclined planes, meeting in front, with the angle of union truncated. Another deformity is owing to the use of stays, which by contracting the base of the thorax give it the form of a small barrel. In many cases, however, the contraction is three or four fingers' breadth above the lower margin of the ribs: so that the margin itself, instead of being thrust into the abdominal cavity, is turned outwards, and the edges of the last cartilages form a marked prominence beneath the soft parts. This alteration of form is important, from the changes it produces in the viscera beneath. The liver, instead of being always pressed up towards the chest, is, on the contrary, thrust downwards into the abdominal cavity. The portion beneath the stricture is found strongly applied to the upper surface of the liver, which often bears the mark of the pressure that it has suffered on a level with the contraction. The right lung is not pressed up towards the summit of the chest, but is elongated by following the liver in its descent, so that there is not the usual difference in the length and volume of the two lungs. The sternum is forced forward, but as the clavicle and first rib prevent its motions superiorly, the xiphoid cartilage is pressed backwards, and is sometimes overlapped by the cartilages of the last true ribs, which are brought so near together as sometimes to cross each other. (See Cruveilhier's Anatomy, vol. i.) This force, acting in contrary directions at each end of the sternum, produces a kind of separation of the two upper pieces of which it is composed, and an arched eminence at the point where the diastasis takes place. Soemmering has remarked this, as well as the change in the relation of the anterior planes of the thorax and pelvis. They no longer correspond, but the former exceeds the latter; the contrary being the case with old men.

[We have given these details on the effects of stays, from a conviction that the subject cannot be urged too strenuously or too often on the attention of the medical practitioner. From the frequent opportunities which he so particularly possesses, of explaining familiarly, both to the parents and their daughters, the consequences of such unnatural compression, he may often be of great service in diminishing the number of those who are permanently injured by this civilized barbarity.]

The dimensions of the chest are also changed in the longitudinal direction, from a diminution in the height of the intervertebral substance. Fischer mentions the case of a man, æt. 100, in which nine of the vertebræ were reduced to a complete column of bone; and the same change was observed by Boerhaave in the whole length of the spine: our authors have seen very commonly three or four vertebræ thus united. Haller attributed this to the absorption of the intervertebral substance, and Morgagni to its ossification; both admit, however, that the spine is shortened. The absorption is more common than ossification. As the muscles from age become unable to maintain the trunk erect, it bends forwards; and the flat surfaces of the bodies of the vertebræ press strongly against the anterior part of the disks which separate them. In this way (as Seiler observed) union takes place, rendering the inflexion permanent. The last cervical and first dorsal vertebræ are most bent. In some the cervical region makes almost a right angle with the dorsal, and the chin rests against the sternum. A curve in the opposite direction occurs in the lumbar spine, the convexity of which pushes the base of the chest forcibly forwards. From this shortening and curve of the spine, the interval is diminished between the inferior margin of the thorax and spine of the ilium, and also the ribs approach each other more nearly, especially in front. If it is also recollected that from the lateral flattening of the thorax, the ribs are so twisted that their external face is turned directly, instead of obliquely outwards, so that their edges are placed perpendicularly one over the other, the contracted state of the intercostal spaces will readily be conceived. Seiler has also noticed as a consequence of this bend, the elongation of the extensor muscles, and the contraction of the flexors, which contraction becomes permanent; as is seen particularly in the sterno-cleido-mastoidei, which appear like cords when the head is a little raised.

The textures covering the thorax are atrophied; the mammæ and fat have disappeared, and the muscles are very thin. The skin is thin, rough, dry, and of a dirty brown colour. The form of the muscles is seen distinctly. The diaphragm, as may be imagined from so many changes in the form of the thorax, is thrown into folds, which make impressions on the liver. The parts which compose the sternum are united; its cells are large, and often filled with a reddish pulp. The ribs are also less dense, and have lost their elasticity. The cartilages of the first and second ribs are ossified, but it is rare to find bony incrustations on the others; when it takes place it begins in the centre. Union of the chondro-sternal articulations is rarer than is imagined; the costo-vertebral joints generally preserve their mobility.

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Plate II

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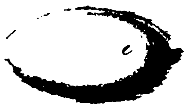

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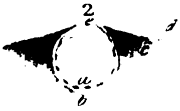

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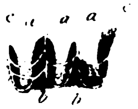

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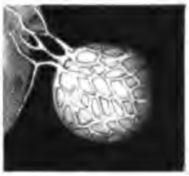

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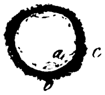

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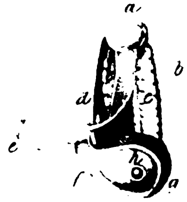

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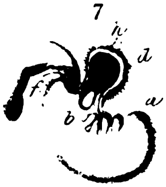

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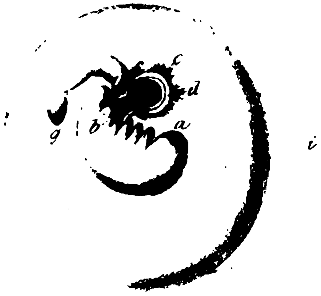

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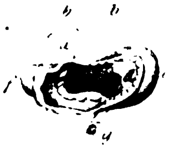

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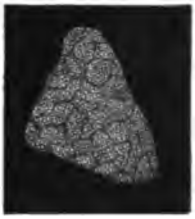

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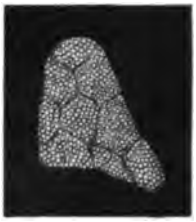

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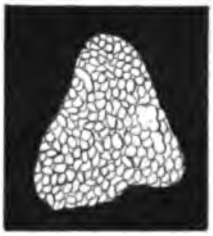

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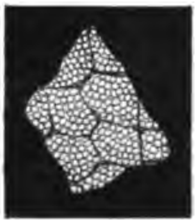

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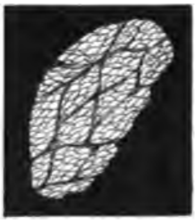

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2. *Lungs.* The lungs of the old are variable in their aspect. The varieties may be comprehended in three typical forms, by which one lung may differ from another, or parts of the same lung from other parts. Magendie has attended to this subject.

1st Type; or the lungs of muscular, stout, vigorous old women, with a capacious thorax. The external aspect differs very little from the lungs of an adult; except in the direction of the great interlobular fissure, in those cases where there is lateral flatness of the thorax. This fissure in the adult has the upper lobe lying immediately above it, and passes obliquely to the root of the lungs, so that on the right side the central lobe occupies exactly the middle part; and on the left, has the lower lobe immediately beneath it. But in old age the fissure becomes vertical, so that one lobe of the left lung is directly in front and the other behind, and the middle lobe of the right lung projects downwards, and the lower lobe becomes elevated behind it, so as to form the posterior fourth, or even more, of the summit of the organ. Thus pneumonia of the summit may be seated in the inferior lobe.

2d Type. The lungs are of regular form, but small, light, and hardly capable of being distended sufficiently to fill the thorax, even by the strongest inflation. They are bathed in limpid serum. Heart small, thorax contracted, soft parts emaciated.

3d Type. Lungs forming a mass, of which the surface is irregular, pressed close to the spine, and surrounded by much serosity. They are livid and flabby, have lost their conical form, the summit being often larger than the base. The lobes are sometimes merely united by a flat thin pedicle, which leaves them as it were floating: the fissures have disappeared. Inflating them does not much increase their size. They are very light, and give to the touch the sensation of a skein of flax. Heart small, often anæmic; and the thorax often excessively emaciated.

Intimate Structure. To examine this the lungs were simply dried, and not previously inflated, for obvious reasons.

1st Type. A thin dried section appeared full of rounded holes, approximating like those in lace. Their diameter was about a quarter of a line, and each was perfectly isolated and distinct. The pulmonary tissue was divided and subdivided very minutely by linear tracts, which were seen by a glass to be evidently vascular. [Plate II. fig. 12.]

2d Type. A similar section was made: the cells were not round but elongated into ellipses, so as to look like a series of chinks, sometimes a line in length, and terminated by two commissures more or less angular. The vascular tracts were equally elongated, and less numerous. The circumferences of the cells were distinctly seen and isolated. [Pl. II. fig. 13.]

3d Type. The cells were of no distinct form: a section could only be compared to torn net-work, whose debris intercepted the irregular spaces. But very few small vessels could be seen by a glass, and there was no division into lobules. [Pl. II. fig. 14.]

Such was the appearance in those who had not had symptoms of disturbed respiration, and so far they may be considered normal. This natural emphysema is more clearly shown when such sections are compared with others from the lungs of adults. In an adult the cells are at least only half the size. In Type 1, the cells were one fourth of a line; in an adult, they were one eighth, or at most one sixth of a line, [Pl. II. fig. 11.]; and in children of four to six years old, about the twelfth of a line, [Pl. II. fig. 10.] finally, in a newly born infant, they were no larger than holes made by the finest needle. These facts verify the law announced by Magendie, from a comparatively superficial examination, that the density of the lungs diminishes, together with the quantity of blood they admit, with the progress of age. The thorax itself is gradually accommodated to this change; it becomes atrophied as the lungs atrophy; it contracts as they contract; and the diminution of their vascularity, which is always in relation to the diminution in texture, shows the direct proportion between the weakened chemical power and the diminished mechanical forces. The effusion of serum may be owing to the thorax being unable to contract beyond a certain point, so that as the lungs still diminish this may fill the vacancy.

[The paper concludes with some criticisms on the opinions of M. Magendie, for which we have not room. The subject is to be continued.]

Archives générales de Médecine, Août, 1835.

On the intimate Structure of the Intestinal Glands. By Dr. Boehm.

[The observations of modern pathologists, with reference to disease of the intestinal glands, have created a desideratum in the physiology and pathology of those minute organs, which a dissertation recently published at Berlin * appears well calculated to satisfy. It contains the results of a whole year's researches on the subject, in animals of different kinds.]

The glands of Peyer (glandulæ agminatæ, plexus intestinales) appear to have the same structure, though a various form, in all the mammalia. Collected in groups of various sizes, they individually consist of hollow corpuscules with a simple cavity, filled with a semi-opaque fluid when the glands are in a healthy state, but found empty in subjects dying of fever, or other diseases affecting the whole system. The parietes of this cavity are composed of two membranous laminæ, a superficial one resulting from the mucous, and a peculiar one beneath, occupying the submucous membrane, and lining the whole cell or vesicle. The cavity so constituted is not furnished with an excretory duct, for which, however, a morbid black speck or incipient ulceration has frequently been mistaken. Each gland is surrounded by a circle of minute tubes, (corona tubulorum,) opening into the intestine, but closed at the other extremity. In birds, on the contrary, a duct is distinctly visible. The fluid within the above-mentioned cavities differs from mucus by its ready solubility in any quantity of water. It contains innumerable whitish globules, in some respects similar to those of blood. The author believes, with MM. Clarus and Louis, that ulceration of the glands of Peyer originates in inflammatory exudation, occurring in the membrane beneath. *Hecker's Annalen, Erster Band. Zweites Heft,* 1835.

MORBID ANATOMY.

On the Anatomical Characters of Cholera. By W. E. Horner, m.d.

[So much has been written upon the pathology of Cholera within these few years, and to so little purpose, that we are not disposed to pay much attention to any theories or opinions respecting it. We are unfortunately as yet only in that stage of the investigation where the collection and collation of facts, or alleged facts, is all that is permitted to the philosophic enquirer. The time, we conceive, is not yet arrived to justify the attempt to establish any theory of this dreadful malady. In presenting to our readers the following extract, we purposely avoid making any remarks on them further than to state that the observer is a man of honour and practical experience. If it should hereafter be found that he has been mistaken, he will only share the fate of the greatest anatomists who have gone before him; or if he has been led to generalize too speedily from too limited a stock of data, he may console himself in company with the first of living pathologists. We take the facts, or alleged facts, as they are presented to us. Dr. Horner is professor of anatomy in the university of Pennsylvania.]

In Asiatic cholera (says Dr. Horner) the following morbid anatomical characters are found in the alimentary canal:—

1. A copious vesicular eruption, entirely distinct from the tumefaction of villi, muciparous follicles or glands, and which pervades the whole canal.
2. A lining membrane of coagulated lymph, which exists in the small intestines at least, if not in the stomach and colon also, and resembles in texture and mode of adhesion the membrane of croup.
3. Vascular derangements and phenomena, which are confined almost exclusively, if not entirely so, to the venous system.
4. An exfoliation of the epidermic and venous lining of the alimentary canal, whereby the extremities of the venous system are denuded and left pabulous.

[To do full justice to Dr. Horner's opinions, it would be necessary to detail his views of the anatomical structure of the mucous membrane; but this we cannot do in this place. The following extracts from the second part of his memoir afford some further details respecting the four pathological conditions just stated.]

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* De glandularum intestinalium structura penitiori. Dissert. Inaug. Anatomica, auctore Ludovico Boehm. Berolini, 1835.

1. This eruption has been seen by me in four cases, and I would suggest might possibly have been seen in others, had my familiarity with its appearance and means of detection been accurate from the beginning. The form of this eruption is that of a spherical vesicle, commonly from one eightieth to one hundredth of an inch in diameter, with parietes transparent and empty in the dried state, in which alone I have seen it, for the reason that when its parietes are impregnated with a liquid, as water, alcohol, turpentine, or varnish, they are so transparent that they cease to reflect light in an appreciable manner. This vesicle lies upon the surface of what I have designated the superficial venous layer of the digestive canal, perfectly distinct from the follicles, that is to say, having for its base the venous partition between the follicles. In the colon, where the edges of the latter are on the same plain, the vesicles repose as distinctly on the surface of the mucous membrane, as marbles would on a table, and very much after the same manner, one point alone of their circumference resting on the mucous membrane. If it should be permitted me to form a conjecture of the nature of their parietes, I would say that they consisted of the cuticle of the digestive canal. They no doubt contain a fluid in the recent state; but what its character is I have yet to learn, from the difficulty of distinguishing the vesicles themselves at that period. These vesicles in some parts of the jejunum are as thick as they can possibly stand, which, according to the estimate of their size just given, would be, at the rate of some thousands to an inch square, actually six thousand four hundred; but as I have never seen an entire inch square covered in this way, an erroneous impression might be conveyed by stating it as the rule. These vesicles exhibit a decided preference to the roots of the valvulæ conniventes, and are there closely disseminated with scarcely an interval between them; but they decrease in frequency toward the summits of the valvulæ. Their entire number and frequency decline greatly in the ileum and colon, the individual vesicles being much insulated, so as to leave wide spaces between them and others. P. 289.

The pathological appearance which corresponds more than any other with what I have described, is that announced by MM. Serres and Nonat, in the French Lancet for April 1832, under the name of Psorenterie. According to them, it is so little apparent in some subjects, that it would not be perceived without much attention, but very apparent in others; it is found to occupy one half or two thirds of the intestinal canal, beginning at the end of the ileum, where it is always larger and more approximated. On one occasion it was seen in the duodenum, where it had gained the free margin of the valvulæ conniventes. P. 290.

A careful perusal of the above description of the psorentery of MM. Serres and Nonat, will satisfy the reader that the eruption which they describe is different in many particulars from the one announced by myself; that the latter consists of vesicles forming entire spheres, hollow, and much smaller in diameter; and that it may be considered as a specific eruption of cholera heretofore unnoticed. Appended also as it is to the surface of the superficial venous layer, it is never seen in places where the latter has been lost in the progress of the complaint; whereas the psorentery of M. Serres is seen under all circumstances of morbid change noticed by its describers. P. 290.

The precise state of the venous system of the digestive canal is, among all the traits of cholera, that which will most fully account for its destructiveness to human life. The minute anatomy of this system has been explained at page 60 and the following, and we now resume the general fact, that the mucous membrane is formed by an intertexture of these veins, resembling a net, or more exactly a plate of metal pierced with holes; these holes being the follicles, whose aggregate number is forty-six millions at least, and probably much more. When cholera has lasted for a few days, this venous intertexture, which I have denominated for reasons stated, the superficial venous layer, is exfoliated from the stomach, and larger intestines especially, but also in a degree from the small. P. 292.

In regard to the existence of a layer of coagulated lymph on the surface of the digestive canal, in corroboration of my own observations, we have the testimony of Corbyn—for the same being found in the disease as it appeared in India, and of Gerardin and Gaimard—of a similar occurrence in that of Russia. The latter indeed states that the sanguineous afflux, or the active congestion directed upon the intestinal tube, appears to be concentrated chiefly upon the mucous coat of the small intestine. This membrane is swollen, spongy, impregnated with a white fluid; the exudation, of which it is the seat, at first clear and aqueous, takes a more consistent aspect, and forms a lining to it of a flocculent or gelatinous layer, sufficiently like a pseudo-membrane. They add, indeed, what I have never seen, that this layer is sometimes traversed by very fine capillary vessels, which are remarked principally at the points which adhere the most strongly to the membrane of the intestine. There could not be a better evidence than this of the analogy of this layer of fibrine with that of pleurisy or pericarditis, the uniform tendency of which is to become organized by vessels shooting into it. In one specimen which fell under my notice, the adhesion was so strong between the jejunum and this factitious membrane, that I regret not having inspected minutely the part, with the view to test this very question. The case, it will be observed, terminated in eight hours from the invasion, and was attended with a strong inflammatory tinge. The mucous membrane here on being put into spirit of wine, and suspended as a preparation, presented that turgescence in its structure, and villi, and apparent impregnation with a white liquor just spoken of. P. 288.

American Journ. of the Med. Sciences, May and Aug. 1835.

On Tubercles. By J. A. Rochoux, Physician to l'Hospice de la Vieillesse (Hommes). (Hospital for Aged Men.)

M. Rochoux has altered his opinion as to the primary forms of tubercles, from examining them with the microscope, and has written a sensible paper embracing the pathological anatomy, diagnosis, causes, and treatment of phthisis. The only novelty that he brings forward relates to the earliest periods when tubercles can be seen, which is a stage earlier than was admitted by Laennec, who satisfied himself with describing the granular state as the first. M. Rochoux does full justice to the merits of the descriptions given by Bayle and Laennec of the progress of tubercles, from the granular stage to that of softening, but considers that the claim of priority in these pathological discoveries is due to our countryman Stark. M. Rochoux supposes that the granular stage of every tubercle is preceded by a small body of the tenth or twelfth of a line in diameter, brilliant as satin, or mother of pearl, and of all shades between a pearly grey and a slight rosy tint, perfectly homogeneous in its tissue, and without any trace of vessels. The appearance of various sections of these bodies shows that they are wholly solid, and not fluid internally. They are united to the tissue of the organ in which they are developed, by numerous filaments as delicate as the spider's web, yielding to the slightest traction, and the broken extremities of which form around the tubercular point a kind of tomentum like swan's down. This eventually becomes the grey or granular tubercle. This appearance is more marked accordingly as the tubercle is recent, and is therefore most evident in young subjects. This early condition of tubercles has been remarked by M. Rochoux in the lungs, liver, pleura, and peritoneum. *Journal hebdomadaire de Médecine,* Mai, 1835. No. 18—20.

PHYSIOLOGY.

On the Early Development of the Human Embryo. By Prof. von Baer.

[The admirable work of Professor Baer, "*de Genesi hominum et mammalium,*" and the variety of important memoirs with which he has enriched the physiological Journals of the continent, fully entitle him to hold a place in the first rank of physiological enquirers: it gives us sincere pleasure to find that he has announced, in the letter which accompanies the present essay, the speedy publication of his second volume, "*über die Entwickelungsgeschichte;*" and, from the earnest he has given in his present observations, we are indeed justified in anxiously looking for its appearance. A lithographic engraving of illustrations is appended, which we have also added. (Plate II. fig. 1.—9.]

In figures 1, 2, 3, Pl. II. we see the ovary, the corpus luteum shortly after conception, and the commencing decidua, of a female who had drowned herself eight days after impregnation. The certainty of the date adds no little to the interest of these observations.

"In the ovary (fig. 1, *e.*) I found," says Prof. Baer, "a crescentic entrance into a cavity: by making a perpendicular section, this proved to be the cavity of the corpus luteum, which was not yet developed, (fig. 2.) It was also evident that this corpus luteum was nothing else than the mucous membrane lining the Graafian vesicle, which, on account of its rapid growth, was puckered into rugæ. The external membrane of the vesicle (*b*), which has been unavoidably represented thicker than it really is, had undergone no increase of development, but became continuous with the external covering of the ovary (*d*). The colour of the corpus luteum was of a brighter yellow than I have seen it in any of the mammalia. It will, of course, be seen that *c* is the substance of the ovary, or what I have called germen (Keimlager), and that *e* is the entrance of the corpus luteum, which is not yet filled up." "Upon examining the internal surface of the uterus, I could see the villi (fig. 3,) of its lining membrane, which in the unimpregnated state are very short, remarkably elongated: between these villi, and passing over them, was a substance not organized, but merely effused (*b*), evidently the membrana decidua of Hunter. The uterine vessels were continued into this substance, and formed a number of little loops round the villi; thus anastomosing with each other. On account of this reticular distribution, it was impossible to distinguish arteries from veins. There is evidently the same relation between the uterus and decidua as between an inflamed part and the effused coagulable lymph." Dr. Baer adheres to the general opinion, that it is an exudation, which is connected with the uterus by blood-vessels. At a later period, the connexion between the decidua and mucous membrane becomes more intimate: they form, in fact, one membrane, so that it is impossible to separate the decidua without also separating the mucous membrane of the uterus from its fibrous tissue. He agrees with M. Seiler, that what is called decidua in the latter periods of utero-gestation, has the mucous membrane also attached to it; and that in labour, as also in miscarriages of advanced pregnancy, the mucous membrane comes away with the decidua, but that in the early periods they are quite distinct; the latter being truly an exudation, which but gradually unites with the mucous membrane. Professor Baer considers that the corpus luteum, which in the above case had not yet filled up the cavity of the Graafian vesicle, is evidently produced by a thickening of the inner membrane of the vesicle, (fig. 4.) This drawing represents a perpendicular section of the Graafian vesicle of a female who had had connexion with her lover the day before she drowned herself. "I observed, upon examining the body, a very turgid vesicle, and, on cutting through it, found the internal membrane, which resembles a mucous membrane separated from the external one, evidently thickened, somewhat corrugated, and yellower than in the unimpregnated condition. The corrugation was perhaps produced in making the section; but this could not have taken place without previous detachment, because this inner membrane, before impregnation, is very firmly attached, throughout its whole extent, to the outer covering. Having frequently observed the lining of the Graafian vesicle in animals thickened, and more or less detached from the external coat, before the vesicle had emptied itself, I have no doubt but that the growth of this mucous membrane precedes the opening of the vesicle, and that its opening, as also the discharge of the ovum, are effected by this means. The letters of fig. 4 are the same as those of fig. 2."

The vessels of the vesicula umbilicalis have not been sufficiently demonstrated. Fig. 5 shews a vesicula umbilicalis, which is somewhat separated from its attachments, highly magnified. *b* is a portion of the convexity of the amnion, upon which, at *a*, is the fundus of the diminutive human allantois. *c* is the duct of the vesicula umbilicalis dividing into the two intestinal portions;* and, besides this duct, are two vessels which are distributed upon the vesicula umbilicalis, and form a reticular anastomosis with each other.

The actual open communication between the vesicula umbilicalis and the intestinal tube of the fœtus, has been doubted. The fact, however, may be shown in every healthy embryo at the second month; but the communication is seen most distinctly in those ova where the embryo is attached directly to the membranes. This firm attachment to the membranes Professor Baer considers may be the cause of the early death of the embryo. Fig. 6 is a drawing of such an embryo, which was attached to the amnion by its left side, and where the vesicula umbilicalis is external to the amnion. The development here, as before observed, has been anormal; but, from this reason, the passage from the vesicula umbilicalis into the intestinal canal is shown with such distinctness, that even with the naked eye it cannot be mistaken. The upper portion, with the disproportionately large head, is merely traced in the drawing; but the lower is fully shaded and finished. (*a*) is the curved caudal extremity of the embryo; (*b*) the bladder elongated into a urachus; at (*cc*) are the two false or primordial kidneys, and between them the vertebral column. The posterior portion of the intestine sinks between the bladder and the vertebral column: the part from which it comes is the yelk-bag, or vesicula umbilicalis (*e*), which in this case lay close to the embryo, and was filled with thick vitelline substance, which, although it had been kept for some time in spirit, had not lost its yellow colour: the only effect of the spirit was to coagulate the vitellum into a solid mass, which had broken into several pieces. As no cord has been developed, so also is there no trace of duct to the vesicula umbilicalis, *(ductus vitello-intestinalis;)* the vesicula umbilicalis is merely somewhat elongated, and from its small extremity arises the posterior portion of the intestine; its cavity passing directly into that of the stomach. The cavity *(g)*, which has been laid open in the abdomen of the embryo, is the stomach; above which may not only be distinguished the diaphragm, but also the opening of the œsophagus (*h*).

It is well known that by far the greater number of human ova which we have an opportunity of examining at an early period are anormal; we can only hope to find the contrary in cases of sudden death, but not in abortion. Professor Baer has selected an anormal ovum of this sort in the first month, to show the allantois. "I have," says he, "been able to find the allantois in every human ovum, until the latter part of the second month; but in the natural condition this sac shrivels up as soon as it reaches the external membrane of the ovum, which, on account of this approach of the allantois to the chorion, becomes capable of development, by receiving blood-vessels from it."

Fig. 8 is an embryo in its spherical amnion. This amnion is not two lines in diameter; the embryo is not more than a line. "Even before opening the amnion," says Professor Baer, "I was able, with the naked eye, to distinguish a peculiar appendage. On opening the amnion, I found the embryo attached to its inner surface by an elongation of the amnion (*b*), or short umbilical cord: the shortness of this can scarcely be looked upon as morbid, on account of the embryo being so little developed that the different parts of the head, which is disproportionately larger than the trunk, are scarcely distinguishable, and there are no traces of extremities. The vesicula umbilicalis was situated at this point of attachment, although external to the cavity of the amnion, which latter, I have endeavoured to show by the shading, (fig. 8, *b*,) formed the covering to this intermediate portion of cord and abdomen. From the vesicula umbilicalis I could trace a duct, which was distinctly open, and in part containing vitellum (fig. 7, *h*,) passing into the intestine of the embryo. More anteriorly I could distinguish the vena omphalo-meseraica (*b*); its corresponding artery escaped my notice. The proportions of the vesicula umbilicalis were quite normal, but those of the embryo were not. Its head, even at this early period, is too large in proportion to the body; and this is why the last bronchial fissure lies too far backwards. There are in this case four bronchial fissures similar to that of the mouth (*a*), and so distinctly open that we can see between them on either side, (fig. 7.)

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* These intestinal portions are represented rather too thin.

"Having examined the embryo before the amnion was opened, and after being kept for some time in spirit, this appearance cannot be attributed to any previous injury: moreover, the edges of the bronchial processes are well defined, except the last, which passes somewhat indistinctly into the side of the abdomen. The preparation is preserved in the anatomical museum of this place. The chief anormality in this embryo is that the allantois is within the cavity of the amnion. The sausage-like appendage which we see at fig. *g* is a hollow bag, distended with fluid, which comes out from the intestine, or cloaca, of the embryo (*e*), and cannot be anything else than the allantois, which otherwise is found between the amnion and external membrane; nor have I seen it in any other case so full. The drawing before us also shows that the fine membrane, which is frequently found between the amnion and chorion, (*membrana media,*) is not the allantois, as many have supposed, but merely an albuminous fluid between the two membranes; the traces of which may be seen fig. 8, *i*."

Fig. 9 is a sketch of the heart of an embryo, at about the fifth week, laid open, "in which," says Prof. Baer, "I could observe the manner in which the single heart divided itself into two ventricles, with the utmost distinctness. The view of it is from the abdominal side; the ventricle is opened, and the cavity exposed; the heart, therefore, appears much broader than it originally was. The auricle (the division is still so slight that we can only speak of one auricle with a slight contraction in it,) is turned backwards. *d* is the passage of the auricle into the ventricle, which is laid open: from this opening runs a projecting fold (*e*) up to the bulb of the aorta (*a*), which still includes the common origin of the aorta and pulmonary artery: this fold is the commencing septum cordis. The ventricle, therefore, contains but one cavity, but is divided by this septum into two blind sacs, communicating with each other, viz. the future ventricles, the apices of which externally are distinct enough, although the septum is still imperfect. At *g* is seen the ascending cava passing through the diaphragm. At *b*, *b*, are two vessels arising from the aorta at *a*, in order to form the roots of the aorta."

We must here close our notice of this highly interesting and valuable paper. Professor Baer goes on to show that the aorta, at this early period, is formed by the union of two trunks, as in the lower animals; and concludes with some very curious observations on the early development of the pneumogastric nerve, the recurrent branch, &c.

Siebold's Journal für Gebürtshülfe, vol. 14, heft 3. *Leipz.* 1835.

The Pulmonary Exhalation experimentally investigated.[*] By Prof. TIEDEMANN.

[THIS highly interesting memoir was read in August, 1834, before the Hessian Society of Natural History and Medicine, but not published until the present year. We lose no time in laying before the profession its principal contents, as being on matters of the first importance in physiology. We may perhaps be allowed to add, that the gentleman to whom we are indebted for the very faithful transcript from the original, now presented to our readers, himself an experienced and accurate physiologist, was present during the performance of many of the experiments referred to in the memoir. We do not, of course, state this as in any way confirmatory of the truth of the results detailed, for of this the unimpeachable honour of the distinguished experimenter is more than sufficient guarantee; but merely as giving us something of a personal interest in the matter, and accounting for the appearance of some of the notes.]

It is an established fact that man expires water in the form of vapour from the lungs, and that all the warm-blooded animals which breathe by means of lungs exhale watery vapour from the nose. Brodie and Magendie, from the examination of cases of fistulous opening in the trachea below the larynx, denied that it came from the lungs, but asserted that it was formed by the moist mucous membrane lining the nose, throat, &c. This view has been disproved by Paoli[†] and Regnoli, in the case of a young female, whose trachea had been opened, and where, at the temperature of 39° Fahr., watery vapour was distinctly expired through the canula.

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[*] Die Ausdunstung in den lungen, durch Versuche erläutert.

[†] Memoria sulla Transpirazione Pulmonare. Pesaro. 1824.

The views of Lavoisier, that the pulmonary vapour was formed by a combination of the hydrogen in the venous blood with the oxygen of the atmosphere, have been completely overturned by Nysten* and Coutanceau,† who found that, even when animals were made to breathe pure hydrogen or nitrogen, the expired air contained watery vapour. The experiments of Collard de Martigny‡ on nitrogen produced the same result: these last lead us to the conclusion that the watery portion of the expired air is a secretion of the blood during its circulation through the capillary vessels of the membrane lining the air-cells and passage of the lungs: although a portion of it is furnished by the mucus which is secreted by the bronchial vessels, still the chief bulk of it is formed by the numerous ramifications of the pulmonary artery.

Having mentioned the various results of experiments by different physiologists to ascertain the quantity of water given off by the lungs in twenty-four hours, Professor Tiedemann observes, that it is nearly impossible to decide upon the actual quantity of expired vapour, on account of the rapid absorption by the lungs, not only of air containing vapour, but also of vapour which had been already disengaged. The bulk and area of the lungs also varies exceedingly. The condition of the atmospheric air, its density, temperature, and hygrometric state, will doubtless have a considerable influence. The quantity of vapour thrown off by the lungs varies according to the condition of the body; in plethoric healthy individuals a much larger quantity is formed than in those who are emaciated and weakly. Jurine, Lavoisier, and Seguin found that more water and carbonic acid were formed after meals than when the stomach was empty. Magendie observed, in a dog, after he had injected a considerable quantity of warm water into a vein, that the respiration was accelerated, and that a large quantity of water flowed from the mouth. It has also been shown by the experiments of Prout and Fife,§ that much more watery vapour and carbonic acid are formed when a person is awake than when asleep: bodily exertion and mental excitement also increase it. Nysten found that in chronic diseases without febrile excitement, and where the lungs were healthy and the respiration natural, no change was observed; but that, in acute forms, the expired air generally contained more watery vapour and carbonic acid. Jurine‖ found, in a case of ague, that less carbonic acid was disengaged from the lungs during the cold, than during the hot and sweating stages; in a patient who had been bled to sixteen ounces, less carbonic acid was found in the expired air after the venesection than before. Nysten observed that, in all diseases attended with dyspnœa, the carbonic acid and watery vapour of the lungs were diminished.

According to Collard de Martigny's experiments, the expired vapour of the lungs contains, in 1000 parts, 907 water, 90 carbonic acid, and 3 parts of an animal matter, the nature of which he was unable to determine. That it contains animal matter is proved by the fact that the condensed vapour of the lungs, which has been collected in a cold bottle, if set by for some days in a warm place, will putrefy and disengage an ammoniacal odour; thus showing the presence of a principle containing nitrogen.

The expired matter of the lungs varies exceedingly according to circumstances, and is much affected by the nature of the food or drink: after drinking spirit, or eating onions, &c. the breath is known to smell for several hours; the breath of carnivorous animals is extremely offensive, especially when they have been feeding upon putrid flesh. Orfila¶ gave a dog three drachms of camphor: the respiration became quicker, and the expired air smelt strongly of camphor. He gave a large dog twenty-four grains of phosphorus in one drachm of olive-oil: in the course of a few minutes the animal's breath smelt of phosphorus; vomiting followed, and it died convulsed in the course of four hours. Schubarth[*] observed that, in animals poisoned with prussic acid, the breath smelt so powerfully of it as to produce headach and vertigo. In horses and dogs to whom camphor, musk, spirit of turpentine, and assafœtida have been given, the smell of these various substances in the breath has been distinctly perceived.

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* Recherches de Physiologie et de Chimie Pathologique. Paris, 1811, p. 180-231.

† Révision des nouvelles Doctrines Chimico-physiologiques, suivi d'Expériences relatives à la Respiration. Paris, p. 64-296.

‡ Journal Complémentaire des Sciences Méd., Mai et Août, 1830.

§ Annals of Philosophy, vol. ii. p. 328; vol. iv. p. 331.

‖ Senebier, Rapports de l'Air avec les êtres organisés, t. ii. p. 272.

¶ Orfila, Traité des Poisons, tom. ii. p. ii. p. 18.

Volatile substances with a strong scent are detected in the breath, if introduced into the circulation in other ways than through the mouth; as by absorption through the rectum, the skin, the serous membranes, or cellular tissue. The members of the Medical Academy at Philadelphia[†] injected one ounce of tinct. assafœtidæ into the rectum of a cat: the smell of the alcohol was perceived in the expired air in four minutes after the operation; that of the assafœtida in thirty-three minutes. Edwards[‡] remarked that the breath of a young man, to whom he had given half a drachm of camphor in an enema, smelt very strongly of it for a whole day. In a girl to whom Tiedemann gave a decoction of garlic in milk, in the form of enema, on account of ascarides, the breath smelt very distinctly of garlic the next morning. Odoriferous substances, which have been kept for some time in contact with the skin, impart their smell to the expired air. Brandner Stuart[§] found that his breath smelt strongly of garlic after having applied fresh-bruised garlic to his skin.

A variety of experiments prove that volatile substances, when brought in contact with and absorbed by serous membranes, are discharged in the air expired by the lungs. The physicians of the Medical Academy at Philadelphia injected Tinct. Assafœtidæ into the abdominal cavity of a cat, and in three minutes after, the breath smelt of it. Magendie[||] introduced some phosphorus dissolved in oil into the abdominal cavity of a dog: after a few minutes, the animal exhaled a white vapour smelling of phosphorus: the same effect was produced by injecting it into the abdomen. Breschet and Milne Edwards[¶] injected a saturated solution of camphor in alcohol into the abdominal cavity of a dog; the smell of the alcohol could be distinguished in three minutes afterward, and that of the camphor in six minutes; which latter continued an hour. From these experiments will be seen the rapidity with which substances absorbed by the stomach or intestines, through the skin or serous membranes, and conveyed into the circulating system, may be discharged from thence with the pulmonary vapour.

Various experiments have been instituted to show that volatile odoriferous substances, introduced directly into the blood, are detected in the expired air. Viborg[**] injected camphorated spirit of wine into the veins of a horse, and the breath smelt of camphor. Magendie repeated the experiments with the same result: he also injected a solution of phosphorus in oil into the veins of living animals, which exhaled a white vapour smelling strongly of phosphorus. Orfila, Breschet, and Milne Edwards have repeated the same experiments with similar results. Nysten[††] found that different gases, which he had injected into the veins of living animals in such small quantities as not to endanger life, were detected in the expired air, and had therefore been removed from the circulation by the pulmonary vapour.

In order to ascertain what substances pass in the form of vapour from the blood in the lungs, Professor Tiedemann instituted a series of experiments on dogs. Having exposed the femoral vein, and introduced a small injecting pipe with a stop-cock, he was enabled to ascertain how long the substance was before it passed off by the lungs, and how long it continued to do so.

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[*] Bemerkungen über die Wirkungen der Blausäure auf den thierischen Körper, in Hufeland's Journal der Practischen Heilkunde, 1821, Jan. p. 16.

[†] Philadelphia Journal, No. vi.

[‡] Orfila, Traité des Poisons, t. ii. p. ii. p. 20.

[§] New-York Med. Repository, vol. i., iii. 1810-1811.

[||] Expériences pour servir à l'Histoire de la Transpiration Pulmonaire. Bulletin de la Société Philomatique, 1811, p. 19.

[¶] Recherches expérimentales sur l'Exhalation Pulmonaire. Répertoire générale d'Anatomie et de Physiologie Pathologique, t. ii. p. 174, 1826.

[**] Scheel Geschichte der Transfusion, b. ii. s. 222.

[††] Recherches de Physiologie et de Chemie Pathologique. Paris, 1811.

He injected one drachm of the expressed juice of pounded garlic into a vein in the thigh of a middle-sized dog: in the space of three seconds after the injection the breath smelt powerfully of garlic, and the respiration was quicker and deeper; the smell of garlic was quite distinct in the expired air for two hours after. The experiments appeared to have no injurious effects whatever on the animal.

He injected an ounce of spirit of wine into a vein in the thigh of a middle-sized dog. The injection was scarcely over before the delicate, almost etherial, vapour of the alcohol was perfectly distinct.* Respiration very quick, pulse extremely rapid, pupils dilated: the animal lay comatose, and respiration became unequal, ceased, and death followed in ten minutes: in examining the body after death, the alcoholic smell was distinct in the vapour arising from the peritoneal, pleural, and pericardiac cavities; the heart contracted feebly from mechanical irritation; the blood on the right side was dark red, somewhat coagulated, and smelt (as did also that of the jugulars) of alcohol. The blood of the left side was of a bright red, and smelt much stronger of alcohol. On opening the head and vertebral canal, the smell of alcohol was perceptible as in cases of death from intoxication. The cerebral vessels were much injected. Death was produced by destroying the action of the brain and nervous system.

Professor Tiedemann injected half an ounce of camphorated spirit of wine, at twenty minutes past eleven, into a vein in the thigh of a large stout butcher's dog, which had been fed on bread at eight the same morning. In sixteen seconds after the operation, the smell of camphor was perceptible in the expired air, and rapidly increased; respiration much hurried, breathing deep, vehement, and irregular: in the course of a minute, the animal howled, and this was followed by most violent convulsions, viz. opisthotonos, pupils greatly dilated. In order to quiet these effects of the camphor, he injected into the vein half an ounce of cold vinegar, a well-known remedy in poisoning by camphor: the convulsions ceased, and the animal became quiet; the respiration was more regular, although still quick; the pupils continued dilated. Having withdrawn the tube, and tied the vein, the dog was removed from the table. At first it staggered a good deal, and then remained standing still. At twelve o'clock it ate some bread and milk greedily; the pupils gradually contracted; the smell of the camphor continued for some time, growing weaker, and the next day the animal was well and lively.

At thirty-two minutes past eleven, five grains of the best musk, finely diffused in two drachms of water, were injected into a vein in the thigh of a small terrier bitch. The animal became restless instantly after the operation; it breathed quicker and deeper, and cried somewhat. The smell of musk was distinctly perceptible in the expired air. In the course of a few minutes it became comatose, and fell into a species of catalepsy. When removed from the operating table, it stood motionless on its feet, hanging the head down and resting it on the nose.† When the feet were moved, it remained in the same posture in which it was put. The respiration became again regular; the action of the heart was not quickened; it beat seventy in the minute, as before the injection; pupils dilated. In the course of ten minutes the pupils contracted. The animal moved itself slowly, and evacuated solid fæces. At twelve o'clock it lay down, and fell into a deep sopor, lying on its side with outstretched feet and the eyes half open; the pupils were contracted, the muscles stiff; occasionally, slight convulsive motions appeared; the hind feet were spasmodically contracted. At one o'clock thin mucous fæces flowed from the rectum; the expired air no longer smelt of musk; the animal heat was not perceptibly increased. When the animal was raised and placed upon its feet, it sank down immediately, and could not be roused from its state of sopor. Every now and then slight tetanic actions were observable. At two o'clock it again passed fluid fæces, with a good deal of black blood intermixed: the convulsions became less frequent; the sopor and the discharge of blood from the anus continued; respiration became irregular; the pulse ceased, and it died during the night.

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* The writer of this article was stationed at the animal's nose, in order to detect the first traces of alcoholic vapour. He watched the piston of the syringe, as it gradually descended along the cylinder in Professor Tiedemann's hand: it had barely ceased to move before he perceived the peculiar smell, as described above.

† The effects of the musk in this experiment reminded us strongly of some experiments performed on animals, some years ago, by Flourens, to determine the precise functions of the different portions of the nervous system. He removed the cerebrum of an animal: it immediately ceased to exhibit voluntary motions, whether of mammalia or aves. It remained standing, as if in a deep sleep; if pushed, it walked; if he threw the bird into the air, it flew. The animals no longer moved from their own impulse. They retained their power undiminished, but the inward power of determining to act failed entirely.—Rev.

On examining the body the next morning, the muscles were rigid; the veins of the abdomen were distended with dark-coloured blood; the whole intestinal canal was very red; the mucous membrane of the stomach had a reddish tinge; that of the whole intestinal canal was of a dark red; the canal also contained a quantity of effused dark blood in its lower part, mixed with blood, the vessels of the liver and spleen were gorged with dark blood; the bile in the gall bladder was unchanged; the cavities of the heart and large vessels contained dark blood; there was no peculiar change in the lungs, nor in the brain and spinal marrow, except that the veins of the latter contained a large quantity of blood. It was remarkable, that in no part of the body was the slightest smell of musk perceptible: it must either have been entirely excreted, or have undergone some change and decomposition.

Professor Tiedemann observes, that the death of the animal appeared owing to a change produced by the musk in the blood, which had rendered it incapable of maintaining the activity of the nervous system. Nature here had evidently made a powerful attempt to discharge this substance from the blood, partly by the pulmonary vapour, and partly by the mucous membrane of the intestinal canal.*

Two drachms of sulphuret of carbon were injected into a vein in the thigh of a large dog. The injection was scarcely over before it was smelt most powerfully in the expired air; the respiration was very hurried, became soon irregular, intermitting, and ceased. The animal died suddenly, after a short but violent extension of the limbs. The diaphragm no longer contracted on stimulating the phrenic nerves; every cavity of the heart was strongly distended with blood; irritation produced very faint contraction. The blood of both sides of the heart was of a dark red, with no smell of the sulphuret of carbon; it was converted into a homogeneous mass without coagulating. The lungs were covered with large dark red spots, and appeared, hard as if hepatized.

Five grains of phosphorus, dissolved in two drachms of oil, were injected into a vein in the thigh of a hound at ten A.M.: the instant the injection was over, the animal exhaled clouds of a dense white phosphorous vapour from its nostrils and mouth:† it howled, the respiration became hurried, and the heart more active. In half an hour afterward, the expired air still smelt of phosphorus; the respiration became very labouring; the circulation slower, irregular, and the dog died at half-past one. On examining the body, the trachea and its ramifications were found filled with white foam, mixed with streaks of blood; the lungs were of a dark-red colour, covered with red spots, inflamed, aud very dense. The cavities on both sides of the heart were filled with dark coagulated blood, which smelt of phosphorus.

"I have repeated this experiment," (says Professor Tiedemann,) "several times. If it be performed in a dark place, the expired vapour becomes luminous, and the animal appears as if it were breathing fire. If we inject a considerable quantity of phosphorated oil, death follows very rapidly, from the inflammation of the lungs, and consequent obstruction to the breathing."

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* The appearance of the mucous membrane of the whole intestinal canal was singular: it was in the highest state of dark-red congestion, and had almost a pulpy appearance.—REV.

† The animal's head was for a moment almost concealed by the dense fumes of phosphorous acid, which streamed profusely from his nostrils and jaws.—REV.

From these experiments and observations, it appears evident that the volatile substances introduced into the circulating system of animals are thrown off with the greatest rapidity from the minute ramifications of the pulmonary artery in the cells of the lungs, and thence removed in the expired air, in which they become easily perceptible to the olfactory organs.

The function of the lungs does not only consist in effecting an important and absolutely necessary exchange between the component parts of the inspired air and those of the dark red venous blood mixed with chyle and lymph, during which the oxygen of the expired air combines with the blood, and the carbonic acid is thrown off, producing the bright red arterial blood; but, besides this, the lungs appear to act as a genuine excretory organ for the venous blood. Volatile unassimilable substances, which have been conveyed into the blood from the food, which cannot serve in forming arterial blood, and are capable of evaporation, are thrown off in the cells and bronchi of the lungs, and removed with the expired air. Thus, the lungs assist in preparing the arterial blood from the alimentary matters which have been digested and carried into the circulating system, and impart to them such combinations and properties as fit them for the office of reproduction, and render the blood conveyed to every organ capable of repairing those changes in the structure and organs of the animal body which have taken place in the performance of their various functions.

In this manner the lungs play a most important part in the process of assimilation and nutrition, not only as the peculiar organ of respiration, but also as a means for the excretion of those volatile substances, and thus enabling the animal functions to preserve their peculiar constitution and qualities, so necessary for the continuance of life. Hence we can understand how variable the pulmonary vapour must be according to the nature of the food, drink, and medicines, which have been taken, and also according to the condition of the vital actions which are accompanied by constant changes in the structure of the different organs. Among other circumstances under which the expired air is remarkably changed, is a state of great hunger. Many physiologists, who have made experiments on animals to ascertain the effects of starvation, have remarked the highly offensive, almost putrid, smell of the breath under these circumstances. It is a well known fact, that the breath of a person who has been some hours without food smells disagreeably. The smell of the pulmonary vapour varies at different ages: in children and youth, the breath has no peculiar smell; but, in advanced age, it has frequently an offensive odour. In females, during the catamenial periods, it has a disagreeable sweetish smell; during pregnancy, also, it has a different smell from that which it has in the unimpregnated state; and, after labour, it has a peculiar milky smell. The smell of the pulmonary vapour varies remarkably in disease: in the advanced stages of phthisis, it is very disagreeable, even putrid and ammoniacal; in malignant putrid fevers, where the blood has been much diseased, the breath is frequently quite fœtid: the breath of rickety, scrofulous children is known to have a sour smell. The pulmonary vapour undergoes a remarkable change when other excretions are suppressed: thus, it smells strongly urinous in suppression of urine. There can be little doubt but that, in certain forms of disease, a variety of miasmata and contagious principles are thrown off by the blood-vessels of the lungs, and that many of those remarkable changes called crises, which are occasionally observed in fevers, are effected in this way.

[Professor Tiedemann's observations present a rich field of enquiry, not only in physiology, but also in pathology and therapeutics. We have given the chief of the references which he has made to different authors in notes, as they may prove useful to those engaged in the same pursuits.]

Zeitschrift für Physiologie, vol. V. Part 2. *Heidelberg*, 1835.

Temperature of the Body in Diseases.

MM. Becquerel and Breschet have made the following experiments on the temperature of various parts of the body in disease. We have given the temperatures by the Fahrenheit scale, although the Centigrade was employed by the experimenters.

No. 1. Man, æt. 37. Typhoid fever, complicated with bronchitis. Pulse 116.
Temperature of the biceps muscle of the arm . 102 Fahr.
mouth . . . 103.37

2. Man, æt. 24. Enteritis with bronchitis. Pulse 116.
Temperature of the biceps muscle . . 103.10

3. Young scrofulous girl, during a well-marked febrile attack.
Temperature of the mouth . . . 99.10
an inflamed strumous tumour on the neck, 104
a phlegmonous tumour in the cellular tissue, 104

4. Woman, æt. 30. Tumour of the same nature.
Temperature of the mouth . . . 97.15
a tumour on the neck . . 99.10
biceps muscle . . . 98.50
the adjacent cellular tissue . . 95

5. Woman. Cancer of the breast.
Temperature of the mouth . . . 98
the cancer . . . 98
fungous granulations . . 98
biceps muscle . . . 98

6. Young man, in a marked febrile attack.
Temperature of biceps muscle . . . 102.10

7. Young man, with scrofulous caries of the bones of the foot.
Temperature of the mouth . . . 97.70
the biceps muscle . . . 99.50
the wound . . . 89.60

8. Man, æt. 19. Hemiplegia of the left side, with gangrena senilis commencing in the legs.
Temperature of the biceps muscle of the arm
of the healthy side . . . 97.70
diseased side . . . 98
mouth . . . 97.52
calf of the sound side . . 98
paralysed side . 98

9. Female, æt. 45. Numbness and acute pains in the lower limbs, following paraplegia. Pulse, 84.
Temperature of the biceps muscle . . 98.85
adductors of the thigh . . 99.23

10. Man, æt. 60. Mercurial tremor.
Temperature of the right biceps muscle, where there was the greatest tremor . . 98.67
left side . . . 98.87

11. Abdominal dropsy, with affection of the heart.
Temperature of the biceps muscle . . . 98.69
liquid contained in the abdomen 98.33

12. Man, with confluent small-pox. Some minutes before death, the pulse 144, and very weak.
Temperature of biceps 96.53
the hand 89.60

The conclusions derived from these facts are, (considering the natural temperature of the muscles as about 96.4 F.):

1. That the febrile condition may increase the temperature 5°.2 F.

2. That very inflamed scrofulous tumours do not produce a higher increase of temperature than the febrile condition: (the purulent parts, it should be remarked, do not share in this increase.)

3. In cancer, there is a slight decrease in temperature.

4. In paralysis, there is no sensible difference in the temperature of the sound and the paralysed limbs.

N B. The biceps muscle of the arm was made use of in these experiments.

Séance de l'Académie Royale des Sciences, 10 Août, 1835.

MEDICINE,

PATHOLOGICAL, PRACTICAL, AND THERAPEUTICAL.

On the Plague now prevalent in Egypt. By Clot-Bey.

[The following particulars of the plague are communicated by Clot-Bey, in a letter to Dr. Chevrin, dated Cairo, the 26th March, 1835, from his actual observation. There are but twenty physicians at Alexandria and Cairo; the greater part are ultra-contagionists, who cover themselves with waxed cloth, use long sticks, and examine their patients at some distance: others, who are less timid, merely avoid touching the sick,—feeling the pulse through a tobacco-leaf, or after having soaked their hands in oil or vinegar. Clot-Bey himself, and one Spanish and three French physicians at Cairo, and two Frenchmen at Alexandria, use no precautions, and examine the dead bodies very carefully.]

The plague commenced in Alexandria in November; for a month it was very fatal, and altogether 20,000 persons have died. It began in Cairo in December, but during the last fortnight only it has been of a serious type. The first symptoms are pain in the head, nausea, and vomiting, injected eyes, staggering walk, as if from drunkenness, stupid expression, white moist tongue, full and frequent pulse. At this period emetics and diffusible stimuli may be tried, but Clot-Bey knows nothing of [illegible] effect. On the second or third day there is mental confusion, sometimes delirium; the tongue is dry in the centre, with red edges; the skin hot; there is often pain in the epigastrium; rarely diarrhœa. Buboes and carbuncles. There is now actually irritation in the digestive canal, brain, and lymphatic glands, and bleeding and cupping are employed, with cauterization to the buboes and carbuncles, to fix this irritation in the skin. On the fifth and sixth day, petechiæ and blue patches on the skin. Revulsives to the extremities. This treatment has apparently saved some patients. The corpses have not the hideous aspect which physicians have described and artists painted. The petechiæ are particularly on the neck, sides of the chest, and limbs; the buboes in the groins and arm-pits, very rarely in the neck; all the lymphatic glands were enlarged in those who had no buboes; carbuncles in three cases only. No particular tendency to rapid decomposition; subcutaneous veins not apparent; heart and veins in the cavities gorged with black blood, as well as the liver and spleen; this viscus was generally doubled in size and softened; arteries empty; kidneys of a deep violet, gorged with blood, hemorrhage in their pelves; the stomach always contained a blackish fluid; its mucous membrane, much injected, exhibited red patches like petechiæ, which sometimes, from their size, might be called ecchymoses; their last degree is ulceration: the intestines were in a similar condition, but less well-marked; the lymphatic glands were always engorged, sometimes increased five or six times, softened, and of a colour like lees of wine, and sometimes black; those of the groin, or arm-pit, by their agglomeration, formed a homogeneous mass of a colour almost always like lees of wine, with effusion of black blood into the surrounding cellular tissue: a similar change was seen in the chain of glands along the vessels of the abdomen and chest; and in many cases the extravasation of blood around them amounted to hæmorrhage. Sub-arachnoid veins and the sinuses gorged: parenchyma of the brain and spinal marrow natural, except in two or three cases, where it was softened.

[Clot-Bey, who is evidently an anti-contagionist, admits that a letter is not the vehicle for the discussion of so important a question. He has observed some facts tending to prove transmission; but how many (he says) are there against it? The physicians, students, and nurses, who were in constant contact with the sick, had not at the date of his letter suffered. The disease began in November, in Alexandria; the first cases in Cairo were in January; and the communication was free between Rosetta, Damietta, which were not affected, and Cairo, where it only arrived after two months. Isolation in houses and ships has not prevented it. The poor are the greatest sufferers, and particularly the Maltese, who are the dirtiest, and whose temperament approaches that of the Arabs. Neither inundations, nor the bad system of burials, explain it; as great inundations have occurred during the last ten years, and there was no deficiency of burials; nor were they more hastily performed than in 1831, during the prevalence of cholera.]

Journal Hebdomadaire des Progrès des Sciences Médicales, Juin, 1835.

On the Effects of Nux Vomica and Aconite on Animals.

By Dr. LOMBARD, of Geneva.

DR. LOMBARD, while employing these remedies in his clinical practice, thought of trying their effects on animals, and made some experiments accordingly, chiefly in reference to their action on the heart. The experiments were performed on frogs, whose hearts beat with great regularity, and for a considerable time after the animal has been mutilated. The medicine was introduced into the stomach, or applied locally to the heart, which was laid bare after the animal had been stupified by blows on the head.

1. *Nux Vomica.* When introduced into the frog's stomach, it produced tetanic convulsions, which in a few hours caused death. The contractions of the heart were sometimes strong and complete, sometimes irregular, tumultuous, and intermitting; always diminished in frequency. Applied locally to the heart, it slightly stimulates, rendering the pulsations more energetic and frequent.

2. *Aconitum.* Its internal employment renders the pulsations less frequent, without irregularity. It has, therefore, a decidedly sedative effect on the heart.

From these experiments, M. Lombard ventures to predicate the effects of the same remedies on the human body, and thence deduces the following practical inferences:

1. That nux vomica cannot be used with advantage in any diseases of the heart; for, although it diminishes the frequency of the pulsations, it renders them irregular.

2. That the aconite, being decidedly sedative, is a proper remedy in active diseases of the heart.

This effect of aconite has been observed on the human subject. In cases of poisoning, the contractions of the heart have been found diminished, and almost suspended. (Orfila, *Toxicologie*, t. ii. p. 221.) It is also considered by the homœopathists to be an energetic antiphlogistic. On these grounds, M. Lombard has tried it in acute enteritis, pneumonia, &c. with success, and also in hypertrophy of the heart. He has often found some drops of the tincture diminish the frequency of the pulse, but more frequently diminish its strength and hardness.

Gazette Méd. de Paris, Oct. 10, 1835.

Clinical Report of the Academical Years 1832-33 *and* 33-34. By

G. DEL CHIAPPA, Professor of Clinical Medicine, Pavia.

[THE only part of this long report which we shall analyze, relates to the general character of the diseases, or to what is called the epidemic constitution, a very important object of medical research. In selecting Dr. Chiappa's paper for publication, we are not solely influenced by its value, but partly also by the wish to illustrate the state of medicine as widely as we can in foreign countries. While it will be found that we have availed ourselves, to a great extent, of the French and German journals, it will probably be remarked that our extracts are much more sparing from the

Italian. This is, no doubt, partly owing to the greater difficulties we have met with in obtaining the latter; but there is another cause, the greater rareness of papers of value in the periodical literature of Italy. For instance, the present is the only thing we could cull from a volume of upwards of four hundred pages, constituting the Numbers of Omodei's Annals for July and August of the present year.]

About the year 1802 (says Prof. Chiappa) a constitution of sthenic diseases commenced in Italy and in all Europe, and has continued to the present time. It has increased, decreased, and become variously modified, sometimes preferring one form, and at other times another (such as gastric, bilious, rheumatic, &c.); but notwithstanding these variations, the general character of disease has always been phlogistic. The treatment required has been the antiphlogistic, modified according to the various circumstances. The principal changes since 1802 were in 1805-6, when the constitution was rather asthenic; in 1809, 10, and 14, when it was strongly phlogistic; in 1816-17 when it inclined to the nervous, continuing more or less phlogistic, with a prevailing disposition to rheumatic and catarrhal, or gastric and bilious diseases; and in 1832-33, when all the diseases manifested a nervous character. In 1834 the constitution became eminently phlogistic, the diseases requiring very full and frequent bleedings. The prevailing diseases were inflammation of the viscera of the head, chest, and abdomen; and numerous fatal cases of puerperal fever. In this phlogistic constitution the sanguineous system was principally affected. The signs of this were, strong pulsations of the heart and arteries, most intense fever, blood covered with thick, coriaceous buff, the inner surface of the arteries a deep red, and as if varnished; and large fibrinous clots in the auricles and ventricles, large vessels and small branches: symptoms of encephalitis, pneumonia, and abdominal inflammation in the same subject, and traces after death of inflammation in more than one organ, and often in all.

During the continuance of this constitution, the mortality was considerably increased. Thus in 1833-34 it was seven per cent.: 316 patients having been admitted and 14 died; whereas in 1832-33 but two per cent. died; there being but three deaths and 150 cases. There was also an increase in the mortality of the whole population of Pavia and its suburbs, which would have been still higher had there not been fewer deaths from chronic diseases, as the winter was unusually mild. It was observed that those who had previously any organic disease, particularly of the circulatory system, when attacked with inflammation, either died or were in the greatest danger.

[The pathological value of the intense red colour of the inner coats of the arteries is a subject of uncertainty, and the cause of much difference of opinion. Dr. Chiappa attributes the redness in his cases to the state of the blood during the general inflammatory condition of the whole system, depending on the epidemic constitution of the seasons. In one case, the particulars of which are given, he states, that besides large masses of coagulable lymph in the cavities of the heart, and cylindrical or conical concretions in the arteries, the coloured part of the blood was deposited, by means of the coagulable lymph, on the inner surface of the arteries, from which in many places it could be removed in small layers by the point of a scalpel. The redness thus depending rather on a varnish spread over the inner surface, than on an injection of its vessels. Rasori first observed this, and Dr. Chiappa confirms it. (This colour of the arteries may probably be produced by many causes. The intensely deep red stain which is found in some fevers, where the blood is almost in a state of putridity, and quite fluid, must be owing to a condition the opposite to that described by Dr. Chiappa.) Several very long cases are given; we shall condense one, as well from its illustrating Dr. Chiappa's views, as from its intrinsic interest.]

S. L. æt. 38, an agricultural labourer, robust, sanguineous, and addicted to wine, suffered much from domestic miseries; for two or three years his health had declined, and he was affected with a number of complaints generally classed under hypochondriasis, such as headach, vertigo, wandering pains in the chest, loins, and extremities; flatulence, dyspepsia, anorexia, or at other times excessive hunger; bowels sometimes constipated, sometimes relaxed; piles, ardor urinæ, palpitations of the heart; occasional febrile attacks, &c. He had consulted during this time all the medical men of his neighbourhood, who must have considered his disease as essentially inflammatory, for they had bled him 30 times. But he never gained by treatment more than partial and temporary benefit. When he entered the hospital he had inflammation of the right testicle, which was enormously enlarged, and accompanied with a deep fistulous ulcer of the scrotum. There was a fistulous ulcer above the left eye, which discharged pus constantly. Pulse hard, and tense; occasional but infrequent febrile disturbance. Like other hypochondriacs he daily complained of new diseases and pains in other situations, and particularly of uneasy and uncomfortable sensations, which are endured with difficulty, and indicate a proportionate lesion of the sensorial power. Antiphlogistic treatment was employed, and chiefly bloodletting, and the blood drawn was sizy. Other antiphlogistic remedies were prescribed, such as cathartic neutral salts, nitre, tartar emetic, digitalis, &c. The aqua lauri cerasi was tried, but without advantage. Bloodletting was performed in all eighteen times, and the blood continued to present the same appearances. The disease indeed appeared to yield, the symptoms were more or less quieted or removed, the testicle diminished gradually towards its natural size, and the ulcer healed; but the various organs were so deeply involved, that a cure was beyond the powers of art. He died, forty days after admission, in a lethargic state, which had been preceded by long and obstinate wakefulness and slight delirium.

The examination of the body was performed with great care by that experienced anatomist, L. Ciniselli of Pavia. Beneath the integuments of the head was a purulent sinus, opening above the upper eyelid and extending to the temporal region, with necrosis of the corresponding extremity of the great ala of the sphenoid bone. Many vessels distended with blood passed from the cranium to the dura mater, which was enormously indurated, and adherent in many places to the arachnoid. This membrane was opaque, thickened, covered with white spots of lymph, and contained much limpid serum. The hemispheres of the brain were adherent inferiorly, and the pia mater every where minutely injected. The substance of the brain was excessively hard, its vessels more numerous and larger than usual; the lateral ventricles full of limpid serum, and the plexus choroides unnaturally developed. The tuber annulare was intensely red, externally and internally, and the inflammation extended to the substance of the peduncles of the cerebrum, as far as their entrance into the hemispheres, to the medulla oblongata, peduncles of the cerebellum, especially the left, entering with it into the hemisphere, around which point the cerebral substance was reduced to a pulpy state for half an inch square. The whole cerebellum was more or less inflamed, externally and internally, and chiefly on the left side. Pus was found beneath the dura mater of the spine, about the last cervical vertebra, and at the termination of the medulla, originating from caries of the fifth and sixth cervical, last three dorsal, and first two lumbar vertebræ, by which their bodies, and the intervertebral substance of the cervical, were destroyed; deep purulent sinuses passed from these into the deep muscles of the neck, and to the viscera of the thorax and abdomen: the dura mater corresponding to the caries was a deep red, the medulla beneath an unformed pulpy mass: above this the opaque arachnoid was distended with serum, and the spinal marrow extremely inflamed over all its surface: the last cervical and dorsal nerves, for an inch or two, presented the marks of intense inflammation. The lungs were universally and strongly adherent to the costal pleura, and the pulmonary pleura was one or two lines in thickness. The right lung was full of small abscesses, as well as the upper lobe of the left; and its inferior lobe congested with blood. The pericardium was adherent externally to the surrounding parts; between it and the heart was a considerable mass of yellow cheesy matter, in greater abundance at the base, and penetrating between the fibres of the heart itself. The heart was not altered, but contained polypiform concretions. The diaphragm was totally adherent to the lungs and heart. The liver was very large, yellow, and, as well as the gall-bladder and duodenum, full of bile. The spleen enlarged, and adhering by plastic lymph to the parts around. The portal system gorged with blood. The pancreas large, and unusually hard. The stomach placed vertically and contracted; its parietes very thick, and the pylorus indurated; many lumbrici in the intestines.

The right kidney enlarged, of a dirty grey colour, very easily broken up. The right testicle three times the size of the other, its tunics inflamed and thickened, and an abscess with an hydatid in the epididymis. The right spermatic cord enlarged, vas deferens dilated and containing pus. The right vesicula seminalis converted into an abscess, which extended into the prostate. The cartilage of the right sacro-iliac symphysis destroyed, and caries of the articular surfaces of the ilium and sacrum, from whence pus escaped into the left iliac fossa.

[In this singular case (which is without exaggeration called a compendious pathological museum), there was neither headach, cough, marked dyspnœa, nor pyrexia, except slight and seldom. Dr. Chiappa imagines that the disease commenced by inflammation of the sanguiferous system, in which all parts necessarily participate, and from thence was diffused through all the internal parts of the body. During the high inflammatory constitution of the year 1834, the chronic affection became acute, which led the patient to enter the hospital, where he died.]

The constitution of 1832-33 was of a nervous character. There was a predominance of affection of the nerves in all the forms of disease, and very little abstraction of blood was comparatively necessary. This lesion of the nervous system was met with in all the forms of thoracic, abdominal, and articular inflammations, rheumatic affections, &c. There was also a great prevalence of the neuroses; neuralgia, gastralgia, hepatalgia, hysteria, hypochondriasis, &c. The chief characters were, 1. Very marked slowness of the pulse. 2. Blood not sizy, but liquid and very soft, the crassamentum like the thinnest jelly, rendering the serum turbid and coloured on the slightest motion. 3. Urine thin, crude, approaching a green colour. The diseases themselves were of a particular character, marked by the following symptoms: course of the disease irregular; changeable pains in various parts of the body; pulse full, but unresisting; one pulse varying from another; frequently palpitations of the heart; tongue generally foul, bowels usually sluggish, right hypochondriac, umbilical, and epigastric regions frequently so sensible as not to bear the slightest touch, or even the weight of the clothes. The same increased sensibility over the chest; painful sensations in the false ribs, scrobiculus cordis, upper part of sternum, &c.; deep and frequent sighing: sometimes the patients feel well, at other times altogether indisposed; sometimes they sleep, and at others pass the night in constant wakefulness; they are now in good spirits, and shortly after depressed and silent; at one time the appetite is good, and then altogether absent. It is a singular circumstance that these patients do not visibly decline in appearance, and even after a long illness they are found abundantly fat. The mortality in the hospital during this year was only two per cent.

[It seems now probable that a mitigated humoral pathology will be founded on the basis of pathological anatomy, the cultivators of which were for a considerable time determined solidists. M. Chiappa's observations on the state of the blood in various epidemic constitutions are worthy of attention, whatever importance may be attached to the particular medium through which he views his facts. The condition which he calls inflammation of the whole sanguineous system would be more commonly called Plethora, as it is difficult to conceive inflammatory action of such extent, and involving so important a system, without more intense symptoms. Dr. Barlow, however, who has paid such close attention to the general condition of the body in the earliest deviations from health, uses the term constitutional inflammation to indicate a general inflammatory action in the system unattended by local inflammation: a condition marked by hard and quick pulse, white tongue, and increased heat of skin, which may continue for months or years without any specific disease ensuing, and with only progressive deterioration of the general health. The blood too is cupped and buffed, and antiphlogistic treatment alone affords relief.* The existence of this condition, as the effect of an epidemic constitution, is not remarked by Dr. Barlow, and he differs from our author in attributing the inflammatory action to the whole system, not to the circulatory system. Whether this condition can with strictness be termed inflammation is a question; there can however be no difference of opinion as to the treatment.]

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* Cyclopædia of Practical Medicine. Art. *Plethora.*

Annali universali di Medicina. Luglio ed Agosto, 1835, vol. 75.

On the Pneumonia of newly born Children. By DR. KLUGE, of Berlin.

DURING the cold autumn of 1817, Dr. Kluge first observed this complaint in two children, who both died at the hospital of "Charity" at Berlin. He had many other cases during the following severe winter, but from recognising the first symptoms, he lost but three cases out of a large number. The characteristic symptoms which appear before those of pneumonia are coldness, paleness, and an ash-grey or lead colour of the skin, as in the commencement of cyanosis. The dyspnœa is not observed until this colour has become well marked. Dr. Kluge considers this disease to be owing to some impediment in the pulmonary circulation, producing a reflux of venous blood into the arterial, through the foramen ovale, which causes congestion of the lungs, and death by suffocation. If the change of colour in the skin is observed before the dyspnœa sets in (and it precedes it by many hours, sometimes twenty-four), the patient may be saved by two leeches to the sternum, and calomel; but when the dyspnœa has commenced, there is generally no hope. It is most prevalent in February, especially if the cold increases suddenly and considerably; it is less frequent in April and October. Some years may elapse without a case; but as it appears suddenly, the first attacked are often lost; under such circumstances Dr. Kluge attentively watches for the first symptoms, and the greater part of the other cases are saved. The youngest are most liable to be seized, and it has not been observed in any children above six weeks old. This is explained by the foramen ovale and ductus arteriosus beginning to close about this time, for they remain open during the first six weeks. Rudolphi had asserted the contrary, but Dr. Kluge convinced him he was in error by numerous examinations of newly born infants who died at his hospital. The disease is clearly illustrated by two cases.

Case 1. L. B. æt. 29, was delivered after a natural, but rather protracted labour, of a vigorous, well-formed male infant. Twenty-four hours after birth the following symptoms were observed in the child. Extreme paleness of the skin, agitated motions, sharp interrupted screams, disinclination to remain at the breast. In half an hour the skin changed to a grey lead colour, with a mixture of blue, particularly round the mouth and nose, where the colour was deeper; and in an hour from the commencement of the attack, the increase in this colour denoted some obstacle to the performance of respiration. The infant's cries became more choked; it uttered interrupted moans, with a constant, short, dragging cough, sometimes coming on in paroxysms, and requiring strong exertion. The pulse, when compared with that of other infants, was very rapid, and felt with difficulty. Temperature of the skin diminished. One leech was applied to the upper part of the sternum, and bleeding kept up for half an hour; one grain of calomel, with two grains of magnesia, was given internally. These remedies were apparently beneficial, the respiration becoming more easy and free, and the colour of the skin less deep, but an hour and a half afterward the breathing was again more laborious and frequent, the colour of the skin deeper, (on the face almost black,) the breath and extremities cold. Death from asphyxia six hours after the beginning of the attack.

Case 2. A male infant was born at half-past twelve at noon in a state of asphyxia, from which he recovered in a quarter of an hour, after allowing an ounce of blood to escape from the funis, sprinkling him with cold water and baths. At 5 P.M. his face and hands were observed to be of a leaden colour; shortly after, diminished heat of skin, dyspnœa, broken moans, but without cough. One leech was applied and a grain of calomel given, but without advantage, except a temporary improvement of half an hour. Respiration became more rapid, unequal, sometimes intermitting altogether, breath and skin more cold. The lead colour was but little marked, and only increased in depth an hour before death, which took place from asphyxia at 2 A.M. Professor Froriep carefully examined both bodies. Upper half of the body of a violet colour, as well as the conjunctiva, tongue, and gums. Sanguineous congestion of the cellular tissue of the aponeurosis of the cranium; of the sinuses of the brain, and of the brain itself; extravasated blood in the base of the cranium. Veins of the neck and subclavian veins distended. Pericardium containing some red serum. Heart natural, its left cavity contained only a small quantity of blood: on the contrary, the right cavities were considerably gorged, as well as the trunk of the pulmonary artery. Foramen ovale and ductus arteriosus open. The greater part of the lungs (except some patches of a bright red) of a violet colour, almost approaching brown, and these parts sunk in water: in some places exudation of a brownish serosity between the pleura and lungs. All the veins in the posterior part of the thorax gorged with black blood.

[Dr. Kluge's explanation of the cause of the discoloration of the skin, &c. in these cases, is ingenious, and agrees with the opinion first satisfactorily proved by M. Louis, and since generally admitted, that the morbus cæruleus is not owing merely to the foramen ovale being open, but that there must exist at the same time an obstruction to the passage of blood out of the right side of the heart. The obstruction is in this case in the lungs, and as the foramen ovale is open, a mixture of the red and black blood takes place. The cause of the first impediment to the circulation through the lungs is not explained; when, however, a mixture of the two kinds of blood has once taken place, pulmonary congestion would follow, and still increase the impediment. The leaden discoloration of the skin of infants (independent of that produced by laborious deliveries), has been mentioned by Dr. Underwood.* He distinguishes it into two kinds; one which entirely goes off and returns, and is commonly dangerous, and which he states (somewhat loosely) depends on some internal mal-formation or derangement, as he has found on examination; and a more innocuous kind, probably depending "on some spasm affecting the external veins, and interrupting the free return of the blood into the larger vessels." No other symptoms are mentioned, and it is therefore very possible that the diseases described by Dr. Kluge and Dr. Underwood are dissimilar. As far as diagnosis is concerned however, it is important to know that a milder disease with the same prominent symptom may exist; and as Dr. Kluge lays it down as a rule, that unless remedies are applied before dyspnœa is observed, and when the colour can alone guide us, there is but little or no hope, it is satisfactory that both writers agree as to treatment. Thus Dr. Underwood advises one or two leeches as the most successful remedy. He previously recommends stools to be procured by clysters; vomiting to be excited if the infant appears sick, and gentle friction before the fire; all of which must be useful adjuvants to leeches in the serious disease described by Dr. Kluge.]

Medizinische Zeitung, Berlin, Juli 29, 1835.

Pathology of Rheumatism. By M. R. PARISE.

[THIS paper is written to prove that rheumatism is an irritation either of the large nervous trunks, or their ramifications, or their intercellular expansions, or the fibrillæ running among the muscles; that is, one of the neuroses. The author does not include articular rheumatism, which he regards as a simple inflammation of the membrane lining the joints. He has suffered from rheumatism in his own person, and as this does not deprive the sufferer of his mental powers, or interfere with their activity, we may admit this claim to attention. His arguments are—]

1. That pressure does not increase the pain, but often diminishes it. It is striking how the slightest motions of a limb may increase the pain, whilst compression relieves it.

2. It does not terminate in appreciable organic lesions, even though it should last for months or years. The muscular and nervous tissues are unchanged: there is never suppuration, and it is doubtful whether serous or gelatinous effusions beneath aponeuroses, or the sheaths of tendons, is the result of rheumatism which has preceded them.

3. Its mobility is a distinguishing character.

4. Its change of situation does not change its nature, although it goes by different

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* On Diseases of Children, 9th Edition, p. 115, et seq.

names. Thus it is the same disease which in the head is called *gravedo*, in the neck *torticollis*, (wry-neck,) in the side *pleurodynia*, in the loins *lumbago*, and along the sciatic nerve *sciatica*.

5. Rheumatic pains are more severe in the night, which is a character of neuroses. Heat cannot explain the fact, for the same heat during the day has no such effect. The cause is hidden.

6. Rheumatic parts are affected constantly by changes in the air and by electricity; the sufferers are living barometers: and this can be explained by the anormal sensibility of the nerves.

7. The distinguishing characters of the neuroses are, the irregularity of their progress, a tendency to periodicity, a disposition to cease and to return rapidly. These features distinguish rheumatism. We shall offer no apology for not translating the following pertinent jeu d'esprit from one of Madame Sévigné's letters to her daughter, as it is too "spirituel" to bear translation. "Devinez ce que c'est que la chose du monde qui s'en va le plus vite et qui s'en va le plus lentement; qui vous fait approcher le plus près de la convalescence, et qui vous en retire le plus loin; qui vous fait toucher l'état du monde le plus agréable, et qui vous empèche le plus d'en jouir; qui vous donne les plus belles espérances, et qui en éloigne le plus l'effet; ne sauriez-vous le deviner? Eh bien! c'est un rheumatisme."

8. The facility of return after its apparently complete cure is so constant, that adults, and still more old people, never are sure, after having been several times affected, that they are permanently cured. Hence the rheumatic diathesis. Young people are more often completely cured; which is probably owing to their perspiring more freely and generating more heat, from a more active capillary circulation. This becomes more languid in advancing years; and explains the greater tendency to rheumatism in the old; in different seasons and climates; and the action of flannel, rubefacients, &c. in its cure.

9. Finally, it is often cured by antiperiodics, as bark; but M. Parisé proposes to discuss its treatment on other occasions.

The obscurity which hangs over rheumatism renders every attempt at its elucidation recommendable. The similarity between rheumatism and neuralgia is clearly stated by M. Parisé, but his opinion that articular rheumatism is a pure and simple inflammation of the membrane lining joints, going through the usual stages of inflammation, and requiring a similar treatment, is too hasty an assertion. If this were the case, there would be no difficulty in the matter; but the circumstances of its not yielding, like other inflammations, to treatment, its not producing the same rapid disorganization, its rapidly shifting its situation, the facility of its return, and the difficulty of a complete cure, mark its specific nature, and have led pathologists to class it with the affection which M. Parisé has described.

Bulletin général de Thérapeutique, Juillet, 1835.

On the Employment of Nux Vomica and its Preparations in the Treatment of Dysentery. By E. Geddings, M.D.

[Although there is nothing particularly novel in the following observations, yet as forming a slight contribution to the very important department of therapeutics, we think them well deserving of attention. They are from the pen of an experienced American physician.]

Foiled of success, (says Dr. Geddings,) and discouraged by the general result of all these [the more ordinary] remedies, we have been induced, within a short time, to make trial of the nux vomica, in some cases of this disease, [Dysentery.] We have as yet only had an opportunity of using it in a few instances, and those not of the worst character, yet so difficult to manage, that some of them had previously resisted all our remedies. The cases selected were those which were not attended with much febrile excitement, but which were characterized by frequent calls to stool, considerable griping and bearing down, and an inability to pass any thing but mucus, or that streaked with blood. In some of the cases, the remedy, though certainly beneficial, was not competent alone to accomplish a cure; in others its good effects were so striking as to inspire considerable confidence in its virtues, and to induce us to make this notice, with the view of inciting others to give it a fair trial under similar circumstances. We do not wish to recommend it to the exclusion of other means, or to inspire a hope that it will be found capable of itself of curing the disease in a large number of cases. But from what we have seen of its effects, we feel assured that it will be found a useful adjuvant, and that in some cases at least it will afford relief when other remedies fail.

We commenced at first by administering the nux vomica in powder, in doses of seven grains, three times a day, as recommended by Vaux of Ipswich, England.[*] In one individual to whom the article was administered in this form, the good effects were prompt. The griping, tenesmus, and frequent calls to stool were speedily checked; the discharges became natural, and the patient, who had suffered much, and had failed to obtain relief from the treatment previously prescribed, expressed himself delighted with the remedy. It was also beneficial in other cases, as were the alcoholic extract of Pelletier, administered in doses of two grains, three times a day, and the strychnia, given in form of an acetate, in doses of one twelfth to one sixth of a grain, formed by dissolving the strychnia in acetic acid. Our comparative trials of the different preparations have as yet been too limited, to enable us to decide which deserves the preference; but we are inclined to prefer the powder, and next to that the extract. It will perhaps be beneficial to combine with whatever form is employed, a small quantity of opium, or some of its preparations.

The good effects of nux vomica in several of the affections of the mucous membrane of the digestive organs, have long been known. Hagström, a Swedish physician, was, we believe, the first who recommended it in dysentery, and his testimony in its favour was of the most flattering character. The celebrated Hufeland[†] states, that he derived great benefit from it in the treatment of epidemic dysentery; and Thomann[‡] remarks, that he has seen it effectual in allaying the tormina, and abating the inclination to go to stool. Richter[§] observes, in reference to the efficacy of this remedy in dysentery, that the extract, like opium, tends directly to allay the irritation of the alimentary canal, and subjoins, that combined with the article just mentioned, it proves beneficial where opium alone fails to do so. The following is the form in which he administers it:

℞ Extract. Nucis Vomic. ℈ ss. Mucillag. Gum. Mimos. ℥ j. Aqua Font. ℥ vj. Syrup. Althæ. ℥ j.

M. S. Two table-spoonsful every two hours.

By Most,[§] a recent writer, this article is especially recommended in what he denominates *pituitous dysentery*, and he remarks, that when the disease is protracted, the article may be administered in the following form for several days in succession, with great advantage:

℞ Nuc. Vomic. ʒ j. Infunde in aqua ferv. q.s. Digere per ½ hor. ut reman. ℥ vj. Col. adde Tinct. Opii Simp. ʒss.

M.S. A table-spoonful every two hours.

By Frisch, a German physician of celebrity, the remedy is highly recommended. He remarks, that in those forms of diarrhœa dependent upon a subacute inflammation of the mucous membrane of the intestines, which are attended with frequent discharges of tenacious mucus, and much griping and tenesmus, no remedy is so effectual as nux vomica.[¶] Its efficacy in diarrhœa has also been testified by others. In a case of chronic diarrhœa, in an individual of a nervous temperament, Professor Récamier administered the alcoholic extract of nux vomica, in doses of one eighth of a grain, with complete success, after various remedies had been resorted to ineffectually.*

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[*] Lectures on the Morbid Anatomy, Nature, and Treatment of Acute and Chronic Diseases, &c. By the late John Armstrong, M.D. &c. Edited by Joseph Rix, M.D. p. 409. Lond. 1834.

[†] Journal der Praktisch. Heilkunde. Bde. i. stucke 1.

[‡] Summa. Observat. Med. tom. iii.

[§] Die Specielle Therapie. p. 133, Bde. ii. Berlin, 1821.

[‖] Encyklopädie der gesammten medicinischen und chirurgischen Praxis. Thiel ii. p. 317. Leipzig, 1833.

[¶] Thompson's Materia Medica and Therapeutics, vol. i.

From these remarks it will be seen, that the remedy is at least deserving further trials. To expect it to perform the part of a specific would be an absurdity, nor would it be reasonable to expect much from it in the acute stage of dysentery. But after suitable depletion, and especially when the disease is verging upon a chronic form, we doubt not it will be found useful.

American Archives of Med. Science, No. 2, Nov. 1834.

On the Use of Purified Alumina in Infantile Cholera, and of Sulphate of Copper in softening the Stomach. By Dr. G. E. F. DÜRR.

Dr. Dürr has been in the habit of using the *Argilla depurata*, in the dangerous forms of diarrhœa and cholera, which are liable to attack children, especially during summer, with considerable success since the year 1826. Its action appears to be very different from that of the carbonate of potass or magnesia. It may be given with perfect safety during the first stage of the disease, when on account of the inflammatory symptoms the muriate and carbonate of iron and opium are contraindicated, and yet where the rapid course of the disease requires decided and active treatment. It has acted successfully in cases where these astringents and also chlorine water have failed; and Dr. D. prefers it to the acetate of lead, which at this early age is rather a questionable remedy. To use the argill successfully, we must give it in pretty large doses, viz. from half a drachm to one drachm, in any proper vehicle, during the twenty-four hours.

The chief symptoms of this dangerous affection, which runs its course in from two to ten days, are profuse vomiting, without any effort, of a sour smelling fluid varying in consistence; in many cases diarrhœa had lasted a whole week, when the first alarm was excited by the sudden appearance of vomiting. Collapse and rapid emaciation of the body followed, with depression of the anterior fontanelle; hollowness of the eyes, paleness, alteration and shrinking of the features, cold extremities, hot occiput, and more or less fever; *agrypnocoma*, or a lethargic state without actual sleep, restlessness, crying, whining, throwing itself from one arm of the nurse to the other, drawing up the feet to the abdomen, want of appetite, great thirst, stiffness in the nape of the neck, and the stomach so distended that it projected in the left hypochondrium like a distended bladder.

Dr. Dürr's practice in this disease was to quiet the irritation in the stomach and bowels by emollient oleaginous remedies in combination with the argill: to excite the activity of the skin by extr. cicutæ internally, and the application of an epipastic powder externally. The immediate effects of this were diminished frequency of the evacuations, the natural yellow colour returning, quiet, excoriations in the folds of the skin about the neck and groins. In very young children the cerebral affection was often allayed merely by the chlorine water (aqua oxymur.); in older children, or where the symptoms were more violent, by leeches to the scrobiculus cordis, or behind the ears, according to circumstances; the dryness of the skin, the lethargy, and coldness of the extremities, were treated with baths of chamomile and salt, and with cold lotions to the head; warm stimulating aromatic fomentations were used from time to time, and enemata of elder and linseed, to which the yolk of an egg rubbed down with linseed oil was added. Dr. D. assures us that in other acute diseases also, where the rough dry state of the skin had defied the usual remedies, gentle perspiration had followed the use of these enemata. The epispastic powder which he mentions, was first described by Autenrieth; it consists of fresh prepared mezereon bark powdered. When the skin is not very delicate, it not unfrequently fails to produce any effects. Dr. D. has used it combined with calomel, and in very severe cases combined with corrosive sublimate, with great certainty and effect. The spot to which it is applied usually becomes red in the course of from six to twelve hours, and in about as much more time moist and excoriated. If the powder will not stick, he moistens the spot with a little saliva or lard.

The result of his practice is decidedly favorable; of 67 children from the time of birth to the age of fifteen months which he has treated for this disease during 1833 and 1834, he lost only seven. Dr. Dürr has given several interesting cases, both successful and unsuccessful, together with the examinations of the latter after death. Great congestion of the cerebral vessels, and considerable softening of the stomach, so that portions of it were quite pulpy, were the chief features, and in one case there was perforation. We regret that our limits will not permit us to quote more than one of these.

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* Richard, Elémens d'Histoire Naturelle Médicale, tome ii. p. 148.

Acute Softening of the Stomach.—A weakly but apparently healthy female infant, eleven days old, brought up on saccharum lactis. The parents lost a child at the same age in August 1833, with symptoms of a similar description, in three days. The child sickened rapidly (Aug. 1834), with diarrhœa of clay-coloured evacuations; constant screaming, restlessness, red tongue, hot skin, distended stomach. ℞ Ol. Amygdal., Mucilag. Acaciæ, ãã ʒ ij. Syrupi Altheæ ℥ ss. Argillæ depuratæ, ʒ ss. Aq. Lauro Cerasi, ℈ ss. M. sumat cochl. min. j. quâque horâ. The child recovered.

In the course of a week the same symptoms returned, with aphthæ and erythematous eruption over the whole body; the same emulsion was ordered with the addition of extr. cicutæ, gr. j. The child again recovered entirely. When about three weeks old (Aug. 24,) the diarrhœa returned with vomiting, drawing up the feet to the abdomen, screaming, restlessness, paleness of the face, and the eruption becoming fainter; the same mixture was ordered with the addition of Extr. Cicutæ, Rad. Ipecac. ãã gr. j. Enemata, aromatic fomentations. Unguent. Cantharid. behind the ears, and the strong epispastic powder between the folds of the skin in the neck, axillæ, &c.

2d day. Little alteration during the night, except that the diarrhœa was not so frequent, eruption still scarcely visible. Stiffness in the spinal column; extension of the limbs; five green spinach-like evacuations; hands and occiput hot; eyes somewhat sunk; anterior fontanelle slightly depressed; slight convulsions; a half moribund look, alternating with screaming, during which the eyes become a little more animated.

℞ Mucilag. Acaciæ, Syrup. Altheæ, ãã ℥ ss. Argillæ depuratæ, Liq. Ammon. Acet. ãã ʒ ss. Pulv. Ipecac. gr. j. Ext. Cicutæ, gr. ij. M. sumat cochl. minimum quâque horâ, contin. omnia.

3d day. Better during the night; bowels opened four times, yellow, not so watery; eruption again visible on the hands; skin moist; excoriations behind the ears; the neck and axillæ are merely red, not yet moist; eyes more lively, less restlessness; symptoms of ulceration in the mouth. Pergat.

4th day. Bowels open only once; eyes not so hollow; excoriation of the nates and neck: continue the emulsion, adding to it half a scruple of argilla (in all two scruples.)

5th day. The whole appearance, as also that of the eyes, is natural; fontanelle likewise; three yellow evacuations; the soft parts which had been powdered are red: repeat the emulsion only every two hours.

6th day. Restless night, again the altered and collapsed appearance; three clayey evacuations: add to the emulsion, Aquæ Cinnamomi, ʒ iij. Extr. Aurant. gr. iv.

7th day. Again as on the fifth day, and up to the present time (14th Sept. 1834,) is healthy and thriving.

The two other cases are a complication of the same disease with what the Germans call *Asthma thymicum*, where the child holds its breath when sucking, the nostrils appear stopped up with mucus, and during sleep it suddenly wakes with much dyspnœa and lividity of face. Besides the same treatment as before described, minute doses of cupri sulphas and musk were given. This produced repeated vomiting; the eyes became brighter, the livor of the face disappeared, the cough diminished, respiration was freer, and the child no longer held its breath. We give the formula, as some of our readers may feel inclined to try this plan of treatment in similar cases.

℞ Cupri Sulphatis, Moschi, ãã gr. ⅛. Pulv. Acaciæ, gr. ij. Pulv. Glycyrhizæ, gr.iv. M. Pulveres tales, viij. To take one every half-hour until repeated vomiting has been produced.—*Hufeland and Osann's Journal, B.* 81. *Juli*, 1835.

On Hæmorrhagic Pericarditis. By Dr. SEIDLITZ, Senior Physician to the Naval Hospital at St. Petersburg.

[THE memoir, of which we here present the reader with an abstract, occupies sixty pages of the last number which has reached us of Dr. Hecker's *Annalen*, and possesses extraordinary interest, as well from the pathological character of its details as from their novelty. We have been as much influenced by a feeling of convenience in adopting the name given above to this affection, as by any strong opinion of its superiority to that employed by our author. In his memoir, Dr. Seidlitz terms the disease *Pericarditis exsudatoria sanguinolenta.* Although we have greatly condensed the whole paper, we believe we have given all that is really important in it of a pathological and therapeutical character; but we have omitted much interesting discussion, in which the author attempts to prove the identity of the disease with the *Morbus cardiacus* of the ancients. For this we must refer the reader to the original article, and to the 31st, 32d, and 37th chapters of Cælius Aurelianus, wherein he treats of the *Morbus cardiacus*, or *Cardiaca passio.* We shall only be able to afford room for a small portion of Dr. Seidlitz's extracts from the ancient author.]

In 1831, several sailors died suddenly at St. Petersburg, whilst engaged at work; others who were admitted at the hospital survived only during a short period. On their bodies being examined by Dr. Seidlitz, it appeared that their death was owing to a severe inflammation of the pericardium, joined to a copious exudation of a sanguineous fluid into the pericardial sac. On his communicating the facts, and exhibiting some of the diseased hearts to the association of German physicians (at St. P.) Dr. Crichton remarked that the disease (which he designated as acute hydropericardia) was one of frequent occurrence amongst the troops. The symptoms were too characteristic to be overlooked on the re-appearance of the disease, and thus Dr. S. was subsequently enabled to treat it with success in its earlier stages, or to verify his diagnosis by cadaveric inspection in the cases which terminated fatally. He characterized the disease as "pericarditis exsudatoria sanguinolenta in homine scorbuto affecto." Its pathological features differed in many respects from those commonly attributed to pericarditis, and it appeared to Dr. S. as a new and peculiar disease. On referring, however, to the description of the *morbus cardiacus* by Cœlius Aurelianus, he became at once convinced of the identity of the last-named disorder with the one he had to treat.

The number of fatal cases of this disease recorded in the hospital books, between March 1831 and September 1834, is stated at fifteen; that of those which terminated favorably was more considerable. Of these cases the majority occurred in February 1832, when the disorder appears to have assumed an epidemic character. It is remarkable that the complaint was only to be met with between the months of February and September; the period during which scorbutic forms of disease commonly prevail at St. Petersburg; and it was usually associated with a transitory epidemic of a rheumatic nature, while pleurisy was commonly prevalent at the same moment. Thus, perhaps, the scorbutic *constitution*, or epidemic tendency to scorbutus, might be considered as the predisposing, the *rheumatic* as the occasional cause of the malady. The disposition to sanguineous exudation from the pericardium was rendered the more evident during those periods, by the fact, that in persons who had died of quite dissimilar complaints, the small quantity of fluid contained in the pericardium had assumed the colour of blood.

Case.—Towards the end of February (1831), a sailor, aged 27, of a muscular habit, was seized with an unusual degree of lassitude after a hard day's work. A peculiar sense of anxiety caused him repeatedly to start out of an unrefreshing slumber. Tightness of the chest ensued on the following day. The præcordia seemed the primary seat of distress, from whence an obtuse pain radiated over the whole anterior surface of the thorax, and concentered itself on the second day (that of his admittance at the hospital) in the right hypochondriac region. Both these places were impatient of touch, which without precisely causing pain, seemed to the patient to impede his breathing. The countenance was bloated, of a bilious hue. The breathing was regular, but superficial; deep and full when the patient exerted himself, and attended by neither pain nor cough. Pulse very frequent, and very indistinct (suppressed, unterdrückt). Pulsation of the heart imperceptible to the hand, and scarcely audible. The patient was perfectly conscious, but morose and torpid, preferring to lie flat on his back or on his left side, and with his head low. He denied having been attacked with rigors or with febrile heat. V.S. ad lb. iss. Blood buffed, yielding a large proportion of serum. A solution of nitrate of potash with tartarized antimony, and saline clysmata, were administered. The latter produced several stools. The night was passed more tranquilly, although but with little sleep. The pulse had now become less frequent and more developed, but the pulsation of the heart was more indistinct. The countenance was expressive of great anxiety, but still nothing was complained of but an entire prostration of strength. The temperature of the skin underwent frequent changes from moderate warmth to a marble-like coldness, accompanied by a cold sweat. Action of the kidneys regular. Four cupping-glasses were applied to the region of the liver, and the saline potion and clysmata repeated. On the morning of the fourth day, the patient's apathy had increased: alternately groaning and sighing, he evinced a great dislike to be interrogated. Pulsation, both of the heart and arteries, was no longer distinguishable; the lips were blue; face and extremities of a marble-like coldness. Whilst Dr. S. was in the act of examining the abdomen, the patient suddenly applied his left hand to his head, then to his chest, stretched his eyelids wide asunder, and expired. In the next moment the pupils became strongly dilated. An incision was instantly made into the swollen jugular veins, from which the blood issued in a small stream. Respiration was at the same time artificially sustained by alternately compressing the thorax, and again allowing it to expand, but in vain.

On the thorax being opened, the eye was struck with the extraordinary size of the pericardium, and with its livid appearance, owing to the translucent fluid wherewith it was distended. An incision being made into this membrane, from four to five pounds of fluid escaped, having the colour of dark venous blood and the consistency of a decoction of marsh-mallows. The entire absence of crassamentum disproved this fluid to be genuine blood, whilst the fact of its coagulating through the influence of heat, showed it to consist of the albuminous serum mixed with the colouring matter of the blood. The inner surface of the pericardium was tinged of a dark blue red, and lined with a coat of villous, granular fibres, of the same colour, which lining was easily separated from the pericardium, and had rather the character of a deposit from the fluid than of the false membranes which attach themselves to the pleura in exudatory inflammation of the latter membrane. On removing the above fibrous layer, the envelope of the heart appeared of the same blue red colour; its surface smooth, shining, and sound. The substance of the heart itself was dark red and very firm. The compression by the extravasated fluid had reduced the volume of the heart to the size of a man's fist, and its four cavities to a mere nothing. The abdominal organs were healthy, although the veins were here, as well as in the thoracic cavity, gorged with blood.

The author proceeds to contrast the characteristics of the above case with those of genuine pericarditis, as well the acute as chronic, from both of which its phenomena differ conspicuously, during life and after death. Had the inflammation a scorbutic character? The discoloured state of the heart and pericardium, together with the scorbutic appearance and the rapid collection of the exuded fluid, render it probable. Nor is it disproved by the absence of some of the external attributes of this disease, for it is only in its later stages that scurvy assumes its more characteristic features. This cachexy annually recurs at St. Petersburg, shortly preceding the vernal equinox. The young, plethoric, and robust are first seized with symptoms of inflammatory fever, which last several days, until suddenly—often in the course of a single night—one of the lower extremities assumes a wax-like hardness, together with a blue appearance, from the effusion of serum, mixed with the colouring matter of the blood, into the cellular texture of the skin. Under peculiar circumstances, then, might not such an effusion be substituted by a more copious one from the pericardium?

In February 1832, notwithstanding the prevalence of w. and s.w. winds, the thermometer remained stationary under 0°, and the epidemic constitution assumed an inflammatory rheumatic character, whilst scurvy was at the same time prevalent. Many instances occurred, not only of pectoral inflammation, but likewise of exudatory pericarditis. A case of the latter is detailed, wherein a more energetic treatment, such as might appear adapted to *acute hydro-pericardia*, led to a successful termination, after about three weeks' illness. The symptoms were here much the same as in the first case, and the diagnosis was confirmed by auscultation with the stethoscope.

About the same period, instances occurred of pericardial exudation *suddenly* supervening upon other affections, and Dr. S. was greatly struck with the following one. A sailor, aged 32, addicted to drinking, and of a lax, bloated habit, entered the hospital on the 20th of February, complaining of pectoral oppression, a humid cough, pains in all his limbs, and in the right hypochondrium. Pulse low and feeble, although not particularly frequent. Temperature of the body natural; tongue furred and discoloured; breath fetid, like that succeeding a debauch. Though appearing to require rest, the patient evinced no real torpor. A solution of the muriate of ammonia with tartarized antimony was administered, and cupping-glasses were applied to the hypochondriac region. After a good night's rest, the patient awoke almost recovered, with the exception of an asthmatic affection, which he declared to be of long standing. The absence of pyrexia, the leucophlegmatic appearance of the patient, the small feeble pulse, and the obtuse sound given by the thorax on percussion, raised the suspicion of a collection of water in the chest, although the patient could lie in any position without inconvenience. He was ordered squills, digitalis, and cream of tartar. The bowels acted spontaneously, and the patient's appetite was very good. Under these circumstances he supped plentifully on the evening of the 22d, and went to bed. Scarcely had he fallen asleep, when he was observed to breathe heavily, and on a sudden to cease breathing altogether. Life had become extinct.

On opening the thorax and abdomen, several pounds of blood flowed away from the two cavities. The right lung partially adhered to the costal pleura, especially towards its inferior lobe, between the extremity of which and the diaphragm a black layer of clotted blood of the size of half a hen's egg was found. The left lung likewise was attached here and there to the costal pleura, but more particularly to the pericardium. The lungs themselves were flaccid, as if macerated. The pericardium contained four pounds of dark blood-coloured fluid without crassamentum. On removing the dark fibrous coat which lined the whole inner surface of the serous membrane, the latter was discovered to be throughout smooth and unimpaired. The heart was enveloped in fat, and compressed into a very small compass; its cavities pressed one against the other, and containing no blood. The jugulars and venæ cavæ were gorged with blood, as were also the vessels of the brain and its sinuses. The liver abounded in blood, and was uncommonly large, but flaccid, retaining the impression of the fingers. The stomach contained the food last taken by the patient, in a perfectly undigested state.

Granting that the pericardium might have contained a small portion of fluid, the deceased's symptoms up to the evening of the 22d appear to Dr. S. wholly disproportionate to the extent of exudation detected after death. He is persuaded that a sudden and copious pericardial discharge succeeded on the patient's falling asleep upon an over-plentiful meal.

At the point of transition from the disease to convalescence, (in the more favorable cases,) the symptoms are usually aggravated to such a degree, that the patients ardently desire to be relieved from their sufferings by death. Nor are the instances frequent where so great a degree of apathy prevails as to render the patient wholly indifferent to his sufferings. An instance is, however, narrated of an almost total paralysis of sensation (so to term it) in a cachetic subject, aged 40. The individual entered the hospital on the 19th of February, with a neglected pleurisy, and was treated accordingly. On the morning of the 25th, the pleuritic symptoms appeared to have vanished, and the patient considered himself better. New symptoms, however, denoted a change for the worse, and pointed to pericardial effusion. The pulse had become low and feeble, and the pulsation of the heart imperceptible to the hand, and nearly so to the ear. The patient's countenance was pale, sunk, and cold; tongue white, and perfectly chill. He had lain during the whole night in a cold sweat, which his bed and body-linen had thoroughly imbibed. Thus he still lay, on his back, unwilling to move. The pectoral pain had left him, and he could draw a deep breath; even anxiety and oppression seemed gone: in short, the only thing at all complained of was heat, with a constant desire for cold drink, notwithstanding the marble-like coldness of the body's surface. He lingered thus until the morning of the 28th.

The results of the cadaveric inspection proved the diagnosis to have been correct in the above case, both as regards the disease in its original and in its metamorphosed shape. Pleural adhesions, superficial inflammation, and hepatisation of the left lung; redness of the parvagum, on the one hand; on the other, distention of the pericardium with three pounds of discoloured serum, together with all the collateral phenomena peculiar to the disease under notice.

The last cases of pericardial disease, during 1832, occurred in May, and were, with two exceptions, successfully treated by the depletory and derivatory methods, joined to the administration of camphor. Convalescence was usually preceded by copious perspiration.

The influenza which raged at the commencement of 1833 created a general disposition to diseases of the thoracic viscera, and late in spring, a scorbutic tendency was superadded. This combination again brought exudatory pericarditis in its train; the first case originating in inflammation of the anterior mediastinum from external injury, and causing death. Two other fatal cases are worthy of being glanced at, the one merely from its complication with nostalgia, (the subject being a native of Poland,) and with severe hepatic disease; the other from its *appearing* suddenly to supervene on intermittent tertian, on which the exhibition of sulphate of quinine, preceded by that of an emetic, failed to have any effect. In both instances the cause of death was again detected within the pericardium.

The tertian fever, connected with the latter of these cases, was *apparently* the original disorder, but it first seized upon the patient under circumstances wholly unfavorable to the generation of intermittent, refusing *nevertheless* to yield to the usual method of treatment. Dr. S. therefore inclines to the opinion that the fever was here merely a secondary affection, a mask assumed by the pericardial disease, such as is not unfrequently observed in organic disorders of the heart. This view seems strengthened by a case of a similar kind which occurred in February 1834, and in which the intermittent paroxysms yielded to a course of diuretic remedies. During this year (1834) the disease attacked the patients less suddenly, and proved less rapidly fatal. The last case that occurred commenced in July, under general symptoms of scurvy, and terminated fatally on the 53d day by a complication of the exudatory pericarditis with jaundice. Dissection exhibited no very novel feature: the pericardium, however, contained no less than six pounds of fluid. The abdominal organs, though tinged with yellow, were otherwise healthy.

It will be seen from the foregoing cases, that the disease rarely admits of a favorable prognosis being formed: where, however, the malady seized upon the patient suddenly, without any premonitory symptoms, Dr. S. never witnessed an instance of recovery.

Amongst the more striking features of resemblance between the symptoms of the exudatory sanguinolent pericarditis of Dr. Seidlitz and the *passio cardiaca* of Cœlius Aurelian, several may be inferred from the following passage (cap. 32) in the latter author: "At vero, si jam fuerit præsens passio cardiaca, sequitur ægros articulorum frigidus torpor, aliquando etiam omnium crurum, vel manuum, aut totius corporis: pulsus densus, celer, parvus, imbecillis, &c.......attestante hallucinatione, animi desponsione, cum vigilibus jugibus, et quibusdam repentino atque concervato per totum corpus sudore. Quibusdam vero primum cervice tenus et vultum, parvus, tenuis, aquætus, dehinc per totum, ut supra diximus, corpus plurimus, ac tunc crassus et tractuosus atque viscosus vel male redolens ......respiratio parva atque anhela et insustentabilis et per morbi progressum rara loquutio ac tremula. Ora pallida, oculi concavi, thoracis gravedo debilitatis causa. Aliquando etiam translatis lingua humecta: aliquibus vero ob complexionem tumoris parvi in visceribus constituti, arida atque sicca, attestante desiderio frigidi potûs. Deficiente ægro, visus obscuritas, articulorum livor, unguium uneatio, et *plurimis integer sensus*," &c.

This author appears to have had some intuitive notion of the *real pathological* nature of the disease. Thus (cap. 34), "alii ex corde, alii ex membrana quæ cor circumtegit diaphoresi vexantur, et propterea ii, qui ex membrana cordis solvuntur adjuncto dolore laborant, qui punctionibus crebris ægrum afficit—ii vero, qui ex cordo, gravedinem solum sustinens."

A long and somewhat intricate analysis of Cœlius Aurelianus's opinions, leaves in the mind of Dr. S. no doubt of the identity of the ancient and modern disease. As, generally speaking (he concludes), the scorbutic diathesis has gradually vanished from Southern Europe, and now occurs exclusively in the Northern zones; in like manner, the *cardiac passion* is at this day only to be met with in these latter regions, where scurvy actually rages with no common virulence.

Cœl. Aurelian's assertion: "phlebotomiam nihil jugulatione differre ratio testatur," does not seem to apply to Russia, where the inflammatory tendency of scurvy usually calls for the detraction of blood. Persons in the habit of being bled annually towards the return of spring, are attacked with the incipient symptoms of scurvy if they delay the venesection beyond the usual period. On such occasions, neither spare diet, refrigerents, purgatives, nor, in fact, any method short of phlebotomy, will suffice to reduce the symptoms. Pursuing the consideration of scurvy through its more advanced stages, Dr. S. pronounces the spots first discovered on the lower extremities to be by no means identical with petechiæ, or sugillations beneath the epidermis, but to be owing to extravasation of blood within the cells, where the capillary roots reside. Hence the skin assumes the appearance and feel of goose-skin. In other cases, the malady localizes itself in the second form,—that of extravasation, in large patches, within the cellular texture of the skin and muscles; or in the third form, producing a wax-like induration of the member. In all these cases, the danger to the central organ of circulation is averted, and the fundamental disease advances in its normal development. Again, the heart is safe when the scorbutic affection, without precisely assuming its ordinary form, attacks other internal organs; as, for instance, the spleen, liver, or lungs. Then arise softening of the spleen, appalling jaundices, (which with their concomitant febrile symptoms present the image of true yellow fever,) or *splenisation* of the lungs. The part of the body in which scurvy locates itself, depends partly upon individuality of predisposition, partly, as has been before stated, on the epidemic character of the period.

Hecker's Annalen. Zweiter Band. Zweites Heft. Berlin, 1835.

On the Use of the Distilled Water of the Prunus Lauro-Cerasus in Facial Neuralgia. By E. S. BENNETT, M.D.

DR. BENNETT, of Charleston in America, relates some cases, in a late number of the American Archives, successfully treated by the remedy here named. It is to be observed, however, that in two out of the three cases described, belladonna was also employed in combination with the cherry-laurel water. The cases were evidently of the neuralgic character, and of considerable standing and severity; and the relief was speedy and permanent. The mode of applying the remedy was to form a lotion of four ounces of the laurel water, one ounce of sulphuric ether, alone, or with half or one drachm of extract of belladonna; and with this lotion the affected parts, previously covered with carded cotton or cotton-wadding, were kept constantly wet. Dr. Bennett says he could give several more cases of similar character and results, but deems these sufficient to test the virtues of the remedy, which he is assured will be found highly serviceable in relieving the great sufferings of patients similarly affected.

American Archives of Med. Science, for April 1835.

Clinical Observations on the Effects of certain Medicines on the Heart.

By Dr. Lombard, of Geneva.

1. *Assafœtida.* Applied externally in the form of the Emplastrum Galbani comp. (L. P.), assafœtida seldom fails to quiet palpitations. Internally exhibited, it diminishes and renders more regular the movements of the heart, removes palpitations, and produces a state of tranquillity even in those most easily excited.

2. *Camphor.* Given internally, in doses of from three to twelve grains in twenty-four hours, it renders regular the most tumultuous palpitations, and removes the dyspnœa which often attends hypertrophy of the heart with dilatation. An enlarged heart, with obstructed orifices or dilatation, should be regarded as a muscle fatigued by its constant efforts to maintain an equilibrium between the fluids which enter it and those which are expelled from it: hence the indications are, to give it power by iron and quinine, and to regulate its action by camphor and assafœtida.

3. *Digitalis.* Its sedative action on the contractions of the heart is not constant, but seems to depend on the state of the stomach, mode of life, dose, and mode of administration.

(*a.*) When the stomach is irritated, digitalis often increases the rapidity of the circulation. When given to those whose stomachs are very sensitive, but not in an inflammatory state, it often produces vomiting, and the palpitations and frequency of the pulse disappear; if continued, the pulse becomes much slower, and no inconvenience follows but the shocks from frequently vomiting. The effects of the prolonged use of digitalis on the stomach are not to produce inflammation, but rather a particular state of the gastric plexuses of nerves, analogous to that observed in sea-sickness; and it is best obviated by antispasmodics and stimulants; such as subnitrate of bismuth, oxide of zinc, then nitrate or acetate of potash, effervescing drinks, ether, and spirits; all of which are employed with advantage in gastralgias accompanied with vomiting.

(*b.*) M. Lombard has very rarely found vomiting produced by digitalis in those who take much exercise, or whose attention is much occupied during its use. This explains why Orfila and others took twenty or twenty-four grains daily, without its diminishing the frequency of the pulse. If they had remained in bed, it would have been otherwise. It has been observed by many that there are very few accidents with digitalis in those cases where the patient is ignorant of the medicine he is taking. Hence patients should be kept in ignorance, and take as much exercise as their condition will permit.

(*c.*) Dose. As a diuretic, it should be very frequently repeated in the twenty-four hours; but, to quiet palpitations, one grain three or four times daily, or three or four spoonsful of an infusion made with one drachm of digitalis to six ounces of liquid, are sufficient.

(*d.*) The peculiar effects of digitalis on the stomach are produced most easily by the infusion; and they are guarded against in some measure only by combining with it ether and aromatics. For the same purpose, magnesia, sub-nitrate of bismuth, sub-carbonate of iron, and oxide of zinc, are combined with the powder. The subcarbonate of iron is recommended by the Italians, and M. Lombard has found it to be one of the best adjuvants to digitalis; for, by this combination, patients have continued the medicine for many months without inconvenience. It may be given with the infusion. The oxide of zinc is employed by the Germans, and seems to act beneficially by calming an irritable stomach which previously rejected digitalis, not in preventing the symptoms of saturation.

4. *Polygala Senega.* This is a valuable remedy in cases of irregularity of the functions of the heart. Twelve to twenty-four grains of extract, or one drachm of the root infused in four ounces of water, and given daily, appear to diminish the frequency and irregularity of the action of the heart, as well as the consequent san-

guineous congestion, in individuals suffering from disease of the heart with dilatation of the cavities.—*Gazette Médicale de Paris*, 10 October, 1835, No. 41.

Creosote.

At the sitting of the Academy of Medicine, in Paris, October 5th, M. Solon made a report, in the names of Caventou and others, on several Memoirs presented to the Academy of Medicine, on the action of Creosote, which called forth a discussion in which the opinions of MM. Andral and Velpeau were elicited. M. Andral had tried it in phthisis, cancer of the uterus, and leucorrhœa, without any results. M. Velpeau had employed it in burns, unhealthy wounds, cancerous, scrofulous, and syphilitic ulcers, and considers it an excitant, or even a mild caustic; but that it is a remedy from which no advantage will be gained, as we have many others of a similar nature, as nitrate of silver, which are infinitely better. The reporters consider it a slight excitant, of no particular value as a medicine, but of use, when diluted, to preserve anatomical preparations.—*Gazette Médicale*, 10 Octobre, 1835, No 41.

Experiments and Observations of the Powers of Creosote on Man and Animals. By Dr. Guiseppe Cornelliani, Professor of Clinical Medicine in the Great Hospital in Pavia.

1. The internal use of an excessive dose of Creosote produces immediate death without organic lesions.
2. The same thing occurs if it be applied to a large nervous branch, or if it be injected into the veins in minute quantities.
3. If the quantity be not sufficient to produce death, it causes a torpor of sensation and motion, particularly of the lower extremities, the heart, the diaphragm, and the organs of the external senses.
4. As sedatives increase its effects, stimulants would probably relieve them.
5. It produces when taken internally an irritation of the gastro-enteric mucous membrane.
6. Oil and mucilage when combined with it render it milder, but given with vinegar it acts more forcibly.
7. Few patients can bear more than two drops from four to six times in the space of twenty-four hours.
8. Animals poisoned by it pass their urine immediately or soon after death.
9. Applied externally it diminishes irritation, and acts as a desiccator.
10. Applied to ulcers and wounds it promotes cicatrization.
11. When inhaled it causes stupor.
12. It acts as a styptic, provided that the divided vessel be not a large one.

[The experiments were made on lambs, rabbits, dogs, &c.]

Giornale delle Scienze Medico-Chirurgiche, No. 8, Febrajo, 1835. Pavia.

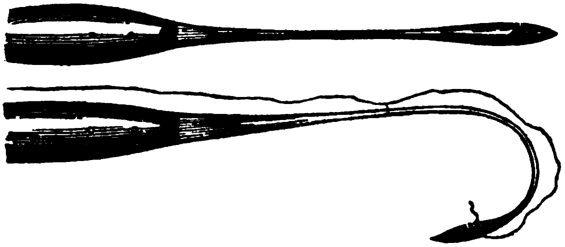
SURGERY.

Observations on Staphyloraphy, or Palate-Suture, and on Extirpation of the Tonsils. By N. R. Smith, M. D. Professor of Surgery in the University of Maryland.

[While appreciating the ingenuity and adroitness displayed by Dr. Smith in the adaptation of mechanical means to the performance of surgical operations, we must be permitted to warn our younger surgical brethren, that no mechanical contrivances can make amends for, much less supersede the necessity of, cultivating a thorough anatomical knowledge of parts, and a most familiar acquaintance with the knife. It is needless to say, that nothing but frequent practice, as well on the living as the dead body, can give this knowledge and this skill. Improved instruments may make real knowledge more effective, but can never be its substitute.]

Staphyloraphy. Having been twice called upon, (says Dr. Smith,) for the performance of this operation by persons from abroad, who could not remain until I procured the instruments which I then had not, I have been under the necessity of using more simple means, and I have succeeded with so much facility that I am confident I shall never employ any other.

The only instrument, besides those found in the ordinary pocket-case, at all necessary for the execution of staphyloraphy, is the needle represented in the accompanying cuts; and it is so simple an instrument that I made the first with my own hands in a few minutes. It is a needle having a permanent handle, its point a little broader than common, and bent from the point into a semicircle, the radius of which is about half an inch. Instead of having an eye near the point, as commonly, this form of needle has merely a notch upon one of its edges. This notch passes obliquely inward and backward from the point, reaching the centre of the blade of the needle. The blade, just anterior to the notch, is broader than it is behind it, so that when the needle is thrust through the soft parts, the posterior angle of the notch passes through without impediment. This needle is armed by simply laying the ligature into the notch—the thread being of such size that it accurately fits it, and waxed so as to make it slightly adhere. It is then employed in the following manner: One end of a long ligature is laid into the notch of the needle. The patient being placed in a convenient posture, and the jaws kept widely expanded by the insertion of a cork between the molar teeth, the surgeon introduces the needle into the mouth; carries its curved portion behind the cleft palate, directing its point behind the middle of the uvula. He then brings forward the instrument, so as to thrust its point from behind forward, through the body of the uvula. If the uvula does not furnish resistance enough to enable him to do this with ease, he may seize its point at the moment with a pair of slender forceps. As soon as the point of the needle is brought fairly through, and pushed forward so far that the thread in the notch appears, the operator may withdraw the needle from the part with a slow motion, and the thread will generally slip with ease from the notch, and be left in the wound. Or that this may occur with the more certainty, the thread, when it appears through the wound, may be seized with forceps, or small hook, and disengaged from the notch.



In a manner precisely similar, another ligature is to be passed through the border of the cleft palate, about half an inch above the former. In many cases a third ligature may be inserted at the same distance above the last; but it is better that this should not be attempted when it is manifest that very strong traction of this last ligature will be necessary to bring together the opposite margins. The ligature would then give rise to much irritation, and not only fail to effect union where it is applied, but embarrass and perhaps defeat the process of adhesion in the parts included in the other ligatures.

The next step is the paring of the border of the velum. This I have accomplished with great ease by seizing both ends of the ligature, with which the uvula is transfixed, and with them pulling the uvula forward. This will render this portion of the velum nearly horizontal, and the operator may easily pare its border with scissors, either straight or having a slight lateral curvature. Or the surgeon may use a straight probe-pointed bistoury for this purpose; but the ligature must then be held by an assistant, and the surgeon must seize the inner border of the uvula with slender forceps. Care is to be taken, in accomplishing this step, not to cut the upper ligatures; and this may be avoided without difficulty by thrusting them well back behind the velum.

The surgeon next proceeds to pass the other extremities of his ligatures through the opposite portion of the velum. This is effected in precisely the manner described above. To pare the border of the velum on this side, however, it is necessary to proceed a little differently. The loop of the lower ligature, which now passes behind the velum from one side to the other, is to be hooked forward and drawn out of the mouth. This loop is then to be held by the operator, together with the end of the ligature on the side upon which he is now operating. Still greater care is here necessary to avoid cutting the ligatures above, while using the scissors or bistoury.

The concluding step of the operation is the tying of the ligatures. This is effected with great ease by forming the surgeon's knot with the ends of the thread —then twisting each end around the second finger of each hand, and sliding each index-finger along the ligature deep into the mouth, and thrusting outward with each, so as to close the knot. The knots being all formed, the ends of the ligatures are to be cut close to them.

The patient, who should have taken food and drink immediately before the operation, is now to be instructed not to attempt to swallow either liquids or solids until the calls of nature become imperative, and then he may be fed with a small quantity of panada. He must also be forbidden for the time to exercise the organs of speech, and must be kept in a perfectly tranquil state. The ligatures should be cut away on the fourth day.

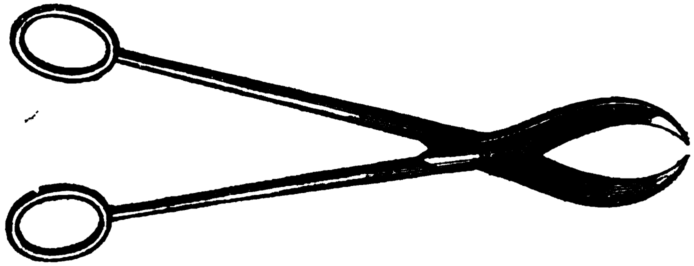
When the fissure traverses not only the soft palate, but also the bony portion, as is usually the case, the operator of course does not expect to close the anterior portion of the fissure. If, however, he succeeds in effecting pretty firm union of even a portion of the velum palati, near the uvula, he has accomplished an important object, and has achieved the principal end of the operation. It is now easy, by the employment of a suitable obturator, to close the anterior portion of the opening.

Extirpation of the Tonsils.—The extirpation of enlarged tonsils is by no means an operation of very formidable character, but it is one which is often necessary, and which is generally accomplished with some difficulty. Hence the multitude and variety of instruments which have been devised for effecting it. That no instrument for this purpose has yet been employed free from important imperfections is obvious, from the fact, that almost every medical journal furnishes some new device for this purpose, intended to supply deficiencies.

The ligature, for the removal of enlarged tonsils, has been by prudent surgeons almost entirely abandoned. The bug-bear, hemorrhage, which has frightened so many into the continued use of it, has lost its terrors. The fact is, that it is not necessary ever to cut away the entire base of the tonsil; if it be only cut through in the centre, so that one half is removed, it will generally be found sufficient; for, in the first place, suppuration will waste a portion of the remainder, and then the cicatrix subsequently forming will repress it. I rarely attempt to cut away more than two thirds of the tumor, and this portion of it is not very vascular, nor has it much sensibility. Those appalling instances of hemorrhage of which we read, have no doubt arisen from the fact that the incision has been carried too deeply into the base of the tumour, wounding vessels which do not wholly pertain to the tonsil. This more frequently happens when the tumour is seized with forceps, and dragged out from its recess at the moment that it is excised. The ligature is a tedious, painful, and often inefficacious remedy. I have wholly abandoned its use for some years.

The knife is not easily applied, and requires to be aided by forceps. The common scissors do not seize the tumour with such a hold as to complete its division at one stroke, as is desirable. Whatever instrument is employed, the excised portion of the tonsil is almost always left in the throat, and it becomes necessary to remove it with the forceps, or the patient swallows it.

A few days since I undertook the extirpation of very much enlarged tonsils in the throat of a small child. I had at hand almost every variety of instrument used for this purpose, as I anticipated considerable difficulty. I tried nearly all in succession, without being able to effect my object, but finally succeeded clumsily with a pair of large probe-pointed scissors, first having seized the tonsil with slender, toothed forceps. Whilst the difficulties of the case were fresh in my mind, I resolved to provide myself with something which should obviate similar embarrassment. I had found that the scissors which I used would have answered extremely well had they had a regular lateral curve, and had they been provided with any appendage to prevent the tonsil from slipping from the grasp of the blades in the direction of their points. Something also, it occurred to me, might be appended, that should seize the severed tonsil at the moment of its division.



With these objects in view, I put into the hands of the instrument maker a model of the instrument here represented. It will be seen that it is a pair of scissors, the blades of which have a lateral curve, and each a hawk-bill curve toward the other, so that when the blades are shut, the points pass by each other to some extent. When any thing of the size of a diseased tonsil is seized by these scissors, the moment the middle part of the blades begins to press it, the points meet and begin to pass each other, so that the tumour cannot possibly escape. To the side of each blade there are attached two small steel points, which are bent toward the edges of the blades, so that when the scissors are completely closed, the tonsil exterior to the place of the incision will be seized and held by the points, and brought away from the fauces when the instrument is withdrawn. The blades should be about an inch and three-fourths in length from hinge to point.

In using this instrument, forceps for seizing the tonsil are unnecessary, nor need we employ any thing for the purpose of keeping the mouth open, as when the scissors are introduced the mouth cannot be closed. The lateral curvature of the blades enables us to press them as deeply as we please into the recess in which the tonsil is lodged.

These scissors will be found equally useful for the extirpation of the uvula, and for the removal of hemorrhoids.—*American Archives of Med. Sciences.* No. 2. *November* 1834.

On the Cure of Fistulæ and Ulcers. By Dr. GOTTLIEB CRAMER.

A point of primary importance is the opening up and uniform dilatation of the sinus, whereby the diagnosis is certified, the issue of the secreted matter favoured; and the needful application of medicinal substances facilitated. To fulfil the former indication, a wax bougie, of such a caliber as permits its easy entrance, is to be frequently introduced, until it passes readily to the very extremity of the fistula; it should never be attempted to force a passage when it meets with opposition, but the point be allowed to remain in contact with the obstacle until that is overcome. Having then arrived at the bottom of the now freely permeable sinus, it will be necessary to proceed with its gradual dilatation. For this purpose, the bougie is to be allowed to remain in the canal a couple of hours daily, gradually increasing the thickness of the bougie until the requisite dilatation has been effected, and the fistula transformed into a tolerably equiform cylindrical cavity, from its external orifice down to its termination. A fortnight will in general suffice to bring about this end; not only will the secretion then be improved in quality, but its egress promoted and its accumulation prevented. The redness, pain, and swelling in the surrounding parts will have diminished, and the secerning membrane will have acquired tone.

Having thus fulfilled the proposed indications, it will be proper to resort to means which will ensure the cicatrization and permanent closure of the canal, by gradually circumscribing the morbid secreting surface, and causing it to heal from below upwards. Should the suppurative process be maintained by the pressure of a foreign body or other irritant, as a portion of carious or necrosed bone, that must be removed. Should it be kept up, in the case of its terminating in one of the natural canals, from the contents flowing along it, as is found to hold good in the instance of stercoraceous or urinary fistulæ, we must first of all seek to stop up the communication, and divert the flow into the proper channel; in the one case, by the assiduous employment of enemata, in the other, by the permanent introduction of a catheter.

On the supposition that every thing has been adjusted, a bougie, one size less than the one last used in the dilatation, is to be inserted, withdrawn, and then replaced, having its point alone dipped into the impalpable powder of nitrate of silver, and left in situ for at least two hours. This practice is to be repeated every day for not less than a fortnight, by which time the discharge will have in a great measure decreased, and its capacity have notably contracted; further interference will generally be unnecessary; by simple repose of the part, after three or four weeks, complete adhesion will be found to have taken place, with obliteration of the fistulous opening. The nitrate of silver acts by destroying the diseased surface with which it is brought into contact, a slough forms, below which a new and different inflammatory action is set up. The slough is at length eliminated, the dilated capillaries contract, a healthy suppurating surface, like that from a recent wound, is substituted for the former, tending rapidly to cicatrize and heal up.

Several cases are adduced in support of the efficacy of the method, which it is asserted has been advantageously extended to the cure of chronic abscesses, where there is much atony present.

The plan Dr. C. recommends for the treatment of ulcers, consists in dipping the piece of lint imbued with the discharge in the pulverized nitrate of silver, and re-applying it on the sore. This he repeats every day, or every other day, and by enforcing a quiescent state of the member, he mentions his having succeeded in healing the most obstinate ulcers in a period of six or eight weeks. He has likewise employed the same powder with advantage to the granular conjunctiva.

Heidelberger Klinische Annalen, Bd. x. H. 1. pp. 71—139.

On permanent Retraction of the Fingers. By M. GOYRAUD, D.M.

DUPUYTREN described in his lectures a permanent contraction of the fingers to which coachmen and others were subject, whose occupation required the constant flexure of the fingers. Extension was prevented by strong bands running beneath the skin, from some part of the palm to the fingers: and from several dissections, Dupuytren decided that these cords were produced by a permanent contraction of portions of the palmar aponeurosis. M. Goyraud, as well as M. Velpeau, from examinations, object to this explanation, for the digital slips of the palmar aponeurosis terminate in and are fixed to the base and sides of the root of each finger, whilst the diseased band is situated in the middle of the finger, and is often prolonged to the third phalanx. They both therefore agree in referring this contraction to a transformation into a fibrous band of a part of the subcutaneous tissue in front of the phalanges. M. Sanson thinks that this is the common cause, and that contraction of the palmar aponeurosis is an exception. The treatment recommended by M. Goyraud, is to make a longitudinal incision through the skin over each band when extended, to separate the lips of the wound, to detach the fibrous cords by dissection, and to cut across these cords, thus isolated. If these cords in front of the fingers send processes to the first phalanges, and then pass on to be inserted into the second, they should be cut above and below these processes. If the section of these cords leaves in the wound partially detached shreds, they should be cut out. The fingers should be completely extended and fixed, and the wound healed by the first intention.

Sir A. Cooper recommends a small bistoury to be passed under the cord, which should then be divided so as not to cut through the skin; but this is only applicable to those rare cases where the cord is not adherent to the skin. Dupuytren recommends a transverse section of the cords and of the skin. M. Goyraud considers his own method preferable, as his longitudinal incisions will heal more rapidly than transverse, which must necessarily suppurate, and therefore are less likely to be attended with inflammation, which might injure the parts beneath, whilst the cicatrix would be linear, instead of broad and adherent.

Gazette Médicale, No. 31, 1 Août, and No. 32, 8 Août, 1835.

On the Treatment of Ozœna and other Diseases of the Organ of Smell. By DR. JAMES HERON, President of the Medical Society of Orange County, in the State of New York.

OZŒNA, or the fœtid, purulent discharge from the nostril, is ordinarily termed catarrh; in its more advanced state, cancer of the nostril or throat, as it occupies principally the one or the other situation.

I have in my recollection an aged friend, who frequently complained to me of what he called catarrh, and that he was often in the night compelled to spring up in his bed by a sense of suffocation, caused by the falling of large quantities of matter from the back part of the nostril into the throat, while he slept. He was found dead in his bed one morning, at a time when he was enjoying his ordinary health, and this was believed to be the most rational cause of death.

Another died the past season by starvation and distress, occasioned by ulceration extending to and occupying the pharynx, so that for a considerable time before his death he could not swallow a particle of nourishment. The termination of this case was called cancer of the throat: and the patient had had for a number of years previous a very fœtid discharge from the nostril, accompanied with pain and soreness in the region of the frontal sinus.

And I now know a member of our profession, aged about 30 years, whom this disease has doomed and marked for destruction at no distant day. Ulceration has entirely destroyed the soft part of the right ala of the nose, the inferior spongiosum, the septum narium, a considerable part of the tonsil, palate and pharynx. The stench from the ulceration is so great that no person can comfortably be near him, although he endeavours to correct it by the most powerful aromatics;—deglutition is so difficult, that he scarce ever swallows anything but liquids, and these frequently pass out at the nostril. He has not for more than a year lain on his back, as the matter then passes into the fauces and endangers suffocation. For this reason he scarcely ever lies down at all, but sleeps in an easy chair with his head inclined forward on a support.

Such had been the inefficiency of the treatment of ozœna but a few years ago, that men so eminent as Boyer and Dr. Physick were induced to pronounce it absolutely incurable in its advanced stage. About three years since, I had a case of this disease which baffled all my resources—and when I sought for light in relation to it, by conversing with my medical friends, I was disappointed, until my attention was directed to some cases recorded in the American Journal of Medical Sciences, published in Philadelphia, which were successfully treated by injecting chloride of lime in solution to the part affected. Since then I have used in all affections of this kind the diluted liquid chloride of soda, and the chloride of lime in solution, indiscriminately, and with equal success; and so confident am I of their efficacy, that I believe no ordinary case of ozœna will resist their proper use. I have also found that much benefit will be derived from passing the smoke of Spanish tobacco through the diseased nostril several times a day, and that the application of olive oil to the internal surface of the nostril is necessary to prevent the excoriations which the ichorous discharge is apt to occasion, and also to prevent the hard and dry incrustations into which the matter in passing is apt to collect.

In the application of injections to the upper and posterior part of the nostril, some management is necessary. The injection should be made while the head is inclined forward and downward; at the same time, by inhaling the breath through the nostril the injected fluid will be brought into contact with the diseased surface, where it may be retained as long as is necessary.

I have never been able to use the injection of chloride of lime of the strength it was used by Dr. Horner, (viz. a tea-spoonful to a wine-glassful of water) : my experience teaches me that applications made here (as to the eye) are better when they are moderately sharp, than when they are too strong. The sensation produced on the olfactory nerve by the application of the chloride of lime or soda, is of that pungent kind frequently the consequence of a free use of mustard or horseradish—and any one can conceive how distressing it would be to use the injection beyond a bearable strength. These applications excite a free discharge of the natural healthy mucus of the follicles of the membrane of the nose, and effectually correct the fœtor of the discharge; in which particular they exceed every other application I have known to be made; and which would be sufficient inducements, if none other offered, to persevere in their use. They should be used twice a day, i. e. morning and evening.—*United States Med. and Surg. Journal for October* 1835.

New Treatment of Blenorrhagia in Women. By P. RICORD, Surgeon of the Venereal Hospital, Paris.

[M. RICORD, in consequence of the difficulty of curing chronic discharges from the vagina and uterus at the Venereal Hospital, was induced to use strong injections of nitrate of silver, such as had been recommended in this country in the gonorrhœa of men, and also the solid nitrate. The following is the result of his trials.]

He used at first injections composed of ten grains of nitrate of silver to an ounce of water, but as the first trials were not followed by benefit, he conjoined with injections, compresses wet with the solution, which were left in the vagina, directing their removal if they produced pain. Some retained them two or three hours, when they felt some heat; but others twenty-four hours. On examining the vagina with a speculum the next morning, the mucous membrane was covered with a dark pellicle; and when this became detached on the following days, the mucous membrane beneath it appeared pale, without any sign of inflammation or ulceration. In some cases this stopped the discharge for two or three days, when it returned in less quantity: in others the secretion was at first increased, but gradually diminished. In all cases the injection was repeated at four or five days' interval, and in some no benefit was derived. Encouraged by a certain number of successful cures of discharge from the vagina, M. Ricord next tried injecting the uterus, with a syringe expressly adapted for this purpose. This was followed by heat in the hypogastric region, by some nervous movements, and in three cases by a complete cure. The injection in the first case brought on the menses eight days before their time, and was followed by slight menorrhagia, lasting a fortnight, after which the purulent discharge ceased. In the second, three injections at eight days' interval were necessary: the menstrual secretion was increased. In the third, where there was amenorrhœa of six months' standing, the menses followed the second injection. Fear of bad consequences following this mode of injection, led M. Ricord to substitute another. A speculum is introduced, and the os uteri touched lightly with nitrate of silver, so as to whiten the mucous membrane; the speculum is then gradually withdrawn, and, as the vagina appears at its extremity, it is likewise touched. Many times daily during the next four or five days an injection is used, consisting of one ounce of acetate of lead, dissolved in two pounds of water.

The speculum is again introduced at the end of this period, and those parts which do not bear the marks of the nitrate of silver are again touched. Two, three, four, or five applications may be necessary, at four or five days' interval. Superficial canterization may be made without the speculum, by introducing a long caustic holder to the neck of the uterus, and then withdrawing it gently and turning it. This has been followed with considerable success; and is not only useful in chronic cases with or without alteration of the tissue of the mucous membrane, but in the acute stage, either at first or after a certain duration of the symptoms. The inflammatory symptoms were never augmented. For uterine blenorrhagia or catarrh, the caustic has been introduced into the cavity of the neck of the uterus with equally favourable results and without accidents; and in such cases it has often acted as an excellent emmenagogue, and might be used as such.

[The introduction of strong injections or of the actual nitrate into the cavity of the uterus, is too hazardous an experiment to be recommended. From physiological researches we know that the semen passes into the Fallopian tubes, a fact which certainly should put us on our guard against forcing in irritating fluids in such a way that they might pass even into the peritoneal sac. The strongly rooted aversion among females in this country to such a remedy as the introduction of the solid caustic would exclude it from emmenagogues, and confine its use even in vaginal discharges to our sick hospitals.]

Bulletin Général de Thérapeutique, Juin, 1835.

MEDICAL STATISTICS.

Historical and Statistical Account of la Maison Royale de Charenton, by M. Esquirol.

M. Esquirol has given, in three successive numbers of the Annales d'Hygiene publique, an elaborate history of the large establishment for the insane at Charenton, two leagues to the east of Paris. The principal object which he has in view is to prove by statistical tables, that the portion of the establishment devoted to male patients requires to be rebuilt; and he has shown the necessity of such an alteration from the diminished mortality and increased proportion of cures among the females, whose apartments have been more recently and commodiously erected. This is an important subject, and of much local interest, but our space will not allow us to follow M. Esquirol in the history and description of the institution, which relate particularly to the subject he is interested in. The last article is of general importance, as it contains the results of M. Esquirol's practice during the eight years he has acted as principal physician at Charenton, and to this we shall confine ourselves, after introducing a few necessary preliminary details.

Insane patients of every age, sex, or rank, whatever may have been the cause, character, or duration of the disease, are admitted. The whole is under the direction of government. Fourteen beds are allotted to the poor of the canton, conformably to the original intention of the institution, which was founded for this laudable purpose by the brothers of the religious order of la Charité, about the year 1602. Sixty-five beds are also placed at the disposal of the government, who may also admit thirty-eight patients at a greatly diminished rate. These are usually given to naval and military officers, literary men, artists, &c. to whom their country is under some obligations, and who are not fit objects for the large pauper lunatic asylums of Paris. The remaining patients pay a certain annual sum. The whole are divided into three classes.

The 1st class pays	1,300	francs and upwards
2d	1,000	—
3d	720	—

The regulations for the medical and general management of the patients, and of the institution, are well worthy of attention. There is one regulation which is peculiarly valuable: a bulletin of the state of each patient is sent every fortnight to the relations. The following is the formula:

MAISON ROYALE DE CHARENTON.
Medical Bulletin.

Mental Condition }

Bodily Condition }

Prognosis }

Charenton, the 183

PHYSICIAN IN CHIEF.

M. Esquirol replaced M. Royer-Collard as head physician in 1826, under whose care the institution had flourished in every respect. Since that date, M. Esquirol has kept accurate statistical tables of various particulars, and he is fully convinced, by thirty years' experience, of the utility of the information thus furnished.

The following table shows that the average number of admissions during the last eight years has been rather more than 194.

Admissions.

Years	1826	1827	1828	1829	1830	1831	1832	1833	Total
Men .	121	123	122	121	112	109	118	106	932
Women	89	82	82	71	74	82	79	66	625
Total	210	205	204	192	186	191	197	172	1557

Several local causes may tend to account for the diminution in the numbers during the last four years; such as the circumstances which since 1830 have kept many persons away from Paris, who formerly resided there; the increase and amelioration of provincial asylums; and the recent permission of those who are not indigent to enter the Bicetre and la Salpetrière, formerly exclusively devoted to paupers.

The next table gives the months during which the admissions took place, from which it appears, that during

Spring	(three months) there were	406	} 1,557.	
Summer	do.	—	445	
Autumn	do.	—	365	
Winter	do.	—	341	

The admissions were most numerous in July, and in the three summer months, and least so in September, and in the winter quarter: so that the number of the insane began to increase in Spring, arrived at its greatest amount in summer, diminished in autumn, and still more so in winter. There were also fewer men in proportion admitted in winter, and fewer women in spring.

Table of Admissions relative to Ages.

AGES.	Sex.			AGES.	Sex.		
To 20 years old	M	82		From 55 to 60	M	37	
	W		42		W		36
From 20 to 25	M	119		From 60 to 65	M	35	
	W		55		W		22
From 25 to 30	M	135		From 65 to 70	M	25	
	W		72		W		10
From 30 to 35	M	130		From 70 to 75	M	4	
	W		77		W		2
From 35 to 40	M	106		From 75 to 80	M	2	
	W		102		W		4
From 40 to 45	M	105		From 80 to 85	M	1	
	W		90		W		1
From 45 to 50	M	83		From 85 to 90	M	0	
	W		65				
From 50 to 55	M	68				932	624
	W		46		Total	1556.	

Table of Admissions relative to Ages and Sexes, classed according to their frequency.

MEN.		WOMEN.	
From 25 to 30 years	136	From 35 to 40 years	102
„ 30 to 35 ...	130	„ 40 to 45 ...	90
„ 20 to 25 ...	119	„ 30 to 35 ...	77
„ 35 to 40 ...	106	„ 25 to 30 ...	72
„ 40 to 45 ...	105	„ 45 to 50 ...	65
„ 45 to 50 ...	83	„ 20 to 25 ...	55
Before 20 years	82	„ 50 to 55 ...	46
„ 50 to 55 ...	68	Before 20 years	42
„ 55 to 60 ...	37	From 55 to 60 ...	36
„ 60 to 65 ...	35	„ 60 to 65 ...	22
„ 65 to 70 ...	25	„ 65 to 70 ...	10
„ 70 to 75 ...	4	„ 75 to 80 ...	4
„ 75 to 80 ...	2	„ 70 to 75 ...	2
„ 80 to 85 ...	1	„ 80 to 85 ...	1
„ 85 to 90 ...	0	“ 85 to 90 ...	1
	932		625

A comparison of both these tables shows, 1st. That the maximum of admissions takes place between 30 and 35 years. 2d. That from 20 to 35 the admissions, reckoned every five years, are raised to the same number, and have been stationary. 3d. That the admissions of men are more numerous from 25 to 30, and those of women from 35 to 40: next in frequency are the admissions from 30 to 35 for men, and from 40 to 45 for women. The male admissions from 20 to 25 hold the third rank in frequency, whilst the same age among women holds the sixth rank; from which M. Esquirol concludes (as he has done in his celebrated article on Insanity) that madness attacks men earlier than women. From 50 to 55, madness is rather less frequent. After 55 the admissions decrease rapidly in both sexes, but they are rather more numerous in women. These results are true as regards the absolute number of admissions; but on comparing them with the whole population of each age, it is provéd that with the progress of years, the intellectual faculties become weakened and extinguished. More men are received at Charenton than women, owing to military and naval officers and others being gratuitously admitted by the government. From other researches of M. Esquirol it appears, that the proportion of males to females in 76,000 insane persons, is as 37 to 38, but that this difference varies with the climate, population, and manners in the same country.

Table of Admissions relatively to the Civil Condition.

	M.	W.
Unmarried ...	505	193
Married ...	387	363
Widowers ...	40	
Widows ...		69
Total of Men	932	
Total of Women		625
General total 1557.		

It follows from this table, 1st. That the unmarried insane at Charenton are in proportion to the married, as 1 to 2,22; and that the unmarried men are to the women as 5 to 2. 2d. That the married insane, are to the admissions as 1 to 2; that there is very little difference in number between the men and women. 3d. That widows and widowers are but one fifteenth of the whole, and that widowers are to widows as 4 to 7. Bachelors are more frequently insane than married women; for insanity attacks men between 25 and 30, when men are the most under the dominion of their passions, and hardly think of marriages; whilst the women are generally married. The number of married females at Charenton equals that of married men.

Do the physical and moral sufferings of women after marriage expose them more frequently to insanity?

The next table refers to the professions and occupations of the insane at Charenton, which we shall not transcribe, as nothing more can be deduced from it than that no circumstances place an individual above the reach of this disease. During 1826, 1830, and 1831, the admission of annuitants (rentiers) a numerous class in Paris, was greater than during the five other years. This is accounted for by the "remboursement des rentes" (paying off of certain funds,) in 1826, and by the political events in 1830-31.

Table of Admissions according to the Causes of Insanity.

	From 1826 to 1833.		From 1826 to 1833.
Hereditary	337	Cholera	3
Onanism	52	Domestic grief	278
Licentiousness	146	Excess in study	16
Abuse of Mercury	44	Reverse of fortune	49
—— of wine and spirits	134	Gaming	5
Insolation	12	Jealousy	18
Blows on the head	20	Love opposed	37
Suppression of habitual		Wounded self-love	16
evacuations	54	Alarm	35
——— of habitual sup-		Exalted devotion	24
puration	3	Excess of joy	2
After delivery	28	Reading novels	13
Cerebral diseases	17	Political events	32

The study of the causes of insanity is as difficult as it is important. The patients are unable to afford any information, and the relations are often either incapable of judging correctly, or are willing to deceive: some are sent without any information of their previous condition. This table is consequently far from perfect, but the results furnished by it are not without interest. It should be remembered that several causes, both exciting and predisposing, physical and moral, may act simultaneously. Of all diseases, insanity is most eminently hereditary. Of 1375 cases, 337 were ascertained to be hereditary, and M. Esquirol is convinced that this number is much under the mark. Errors in diet, and excess of every kind, either by gradually weakening the organs of sensibility, or briskly perverting their functions, frequently produce madness. Epilepsy, and particularly epileptic vertigo, always modifies the nervous functions of those so affected. Epileptics are highly susceptible and irritable; their fits terminate sometimes by furious mania, rarely by monomania, often by the most stupid dementia; but this consecutive disease is not of long duration, it generally goes off after some hours, or days, to be again brought on by a fresh fit; but when epilepsy has lasted many years, and the attacks have been more frequent, (particularly the vertigo,) the intellect becomes changed, weakened, and lost. M. Esquirol has found that short attacks of vertigo destroy the intellect more rapidly than complete attacks of epilepsy: Insanity has followed delivery 28 times, that is, in the proportion of 36 to 12 on the whole number of women admitted during eight years. This cause was more frequent in the Salpêtrière, amounting to one twelfth, which can be explained by the greater misery and destitution of the pauper females.

A greater number of physical than of moral causes were noted, which is contrary to the observations of both Pinel and Esquirol at the Salpêtrière: there, however, women alone were received, and females are more under the influence of moral emotions than men. It is also more difficult to ascertain moral than physical causes. Under the head domestic grief is included all those moral feelings which are called into action in the family circle, such as bad humour, discouragement in the domestic economy, cares for children, the loss of near relatives, professional jealousies, deranged circumstances; so that the large figure attached to this head, will cause no surprise. Alarm produced more instances of madness in 1830, than in the four preceding years. Before 1830, political causes were not remarked, but in that year there were thirteen cases, and in the next year fifteen cases, attributable to political changes. By comparing the frequency of madness in 1830-31 in certain professions, with these moral causes, it is evident that the social disturbances of this period exercised their influence on the production of insanity, not only by the alarm, but the reverses of fortune they occasioned in so many instances. This conclusion confirms one, at which M. Esquirol arrived in 1805, that the dominant ideas of every age, the state of society, and political commotions, considerably influence both the character and frequency of insanity. "I could sketch (says M. Esquirol) the history of my country from 1789 to the present day, from observing several maniacs, whose insanity was caused or characterized by some remarkable political event which took place in this period; and if I had to render an account of the greater number of suicides in 1834, and of the causes of their frequency, it would be sufficient for me to give an accurate history of the intellectual and moral state of society in France. We should see that the disease is old, but that new circumstances have aggravated it."

Table of Admissions according to the Varieties of Insanity.

	M.	W.
Monomania	372	343
Mania	334	211
Dementia	219	62
Idiocy	8	7
Delirium alone		1
	933	624
	Total 1557.	

Monomania is the most frequent variety. It is in proportion to the whole admissions as 1 to 2,17; it affects women more frequently than men, relatively to the number of admissions of the two sexes: women are more frequently victims of sad and depressing emotions, and more exposed to melancholy with delirium. Mania, more frequent among men, was, relatively to the admissions, as 1 to 2,85: dementia as 1 to 5,54, and the proportion of men subject to it *much* greater than that of women. Idiocy was noticed 15 times only in 1,557 cases: it is rare in a civilized country like France, but not so in other countries; thus according to the statistics of Dr. Holst it abounds in Norway. Dr. Halliday shows that there are many idiots in Scotland; Sir G. Staunton has seen many idiots on the frontiers of Chinese Tartary: and what are the Cretins of Switzerland, of the Alps and Pyrenees, but idiots of the mountains? If Insanity is frequent, and idiocy rare in France, it is because the two are very different. Insanity is in the direct ratio of civilization; it is the product of intellectual and moral influences: idiocy, on the contrary, depends on the soil and on material causes. The causes of idiocy oppose the development of the organs, and intellect cannot manifest itself. In insane persons, the organs are well developed, but being over excited, reason is overthrown. It is so true that material influences are the cause of idiocy, that wherever civilization has penetrated and has modified these influences, the Cretins have diminished in number. Rainon has stated this of the Cretins of the Pyrenees; others have observed it in Switzerland, and any one may verify it by visiting those mountainous countries where civilization has increased the means of existence, and changed the mode of life of the inhabitants.

Three tables follow, one of the annual number of cures and deaths; another of cures relatively to sexes and seasons; and the third of deaths relatively to sexes and seasons: but as the general summary contains the really important matter, we shall omit the details on which it is founded. In eight years there were 518 cures; 514 returned to their relations without being cured; and there were 546 deaths. The total number of admissions was 1557, and the proportion of cures was as one to three. If from the total number of admissions, are subtracted 274 paralytics, 62 epileptics, and 15 idiots, in all 352 cases, which all practitioners regard as incurable, 1,205 will remain, and the cures being 516, the proportion is as 1 to 2,33. The proportion of cures might be still farther increased by deducting several cases of patients leaving when under improvement; or dying of other diseases when convalescent, &c. and by subtracting the large number of 492 patients, which were left in the hospital by M. Esquirol's predecessor uncured, the greater part of whom had lived there many years.

The cures of females, relatively to admissions, are greater in number than those of men. This M. Esquirol attributes to the improved state of that portion of the building devoted to females. The cures have been most numerous in October, and fewest in February; the men have been cured more often in November and July, the women in October and May. If the year is divided into four seasons of three months each, it will appear that autumn is most favourable to cures, and winter least so. The cures are more numerous in spring, increase still in summer, and attain their maximum in autumn. Thus

Winter three months	92 cures	518.
Spring „	123	
Summer „	145	
Autumn „	158	

Monomania, relatively to the number of admissions, is cured more frequently in women; mania on the contrary, is more often cured in men; for 160 men have been cured, and only 103 women. Dementia is hardly ever cured; and idiocy never, as it depends on defective organization.

Cures relatively to the Forms of Insanity.

	Men.	Women.	Total.
Monomania	123	128	251
Mania	160	103	263
Dementia	1	3	4
	284	234	518

The deaths have been, relatively to the whole number, as 1 to 3,75, that is, nearly one fourth. The proportion of deaths was greater among the men, 406 men having died, and 140 women; the proportion being as 1 to 29. The state of the building explains this. The mortality was at its maximum in winter, diminishing in spring and autumn, and arriving at its minimum in summer. Thus

Winter three months	160 deaths	546.
Spring „	139 „	
Summer „	119 „	
Autumn „	128 „	

Many circumstances, besides the improper construction of the portion of the building which contains the men, explain this great mortality. Recent cases are rarely sent to Charenton, and as has been previously mentioned, upwards of a fourth were paralytic, epileptic, or idiodic; in fact, incurable.

The examinations of all the patients after death were conducted with the most scrupulous attention, and a written statement of the appearances was added to the history of the case. Lesions of the brain and its membranes were found more frequently than diseases of the thoracic or abdominal viscera. The contrary was the case at la Salpêtrière, the field of M. Esquirol's previous practice; very few of the women in this latter establishment being paralytic. Indeed, the examinations of the bodies at both places have not explained the material conditions on which the delirium of insanity depends. New efforts may perhaps disclose the cerebral lesions which produce insanity, and our present ignorance should not discourage our attempts.

Annales d'Hygiène Publique, Janvier, 1835.

II. *Official Report of the State of Lunatics in Norway in the Year* 1825.

By Frederick Holst, M.D.

[With the view of rendering more complete our present illustrations of the Statistics of Insanity, we have transcribed the following tables from the very interesting work of Professor Holst, of Christiania, referred to in the preceding article.* Although published now seven or eight years, we have reason to believe that this document is scarcely known in this country: it has been recently referred to, with just commendation, by Dr. Prichard, in his admirable work on Insanity.—The data from which the following tables were drawn up, were procured from reports from the pastors of the several parishes in the kingdom of Norway, who had blank forms sent them for the purpose. They were to give in the name, age, and sex of each lunatic, with the nature of the disease, (whether mania, melancholia, dementia, or idiotismus), to assist them in which task the form contained clear descriptions of the four kinds: they were also to add its duration, probable cause, whether the patient was then, or ever had been subject to epilepsy, and whether he had had medical aid, and if so with what result. From these data the commissioners determined the prognosis, or division into curable and incurable cases, according to the rules laid down by Pinel, Esquirol, Georget, Heinroth, Cox, Hallaran, Rush, Crowther, &c. and drew up the extensive tables which are here condensed and put into a more easy form for reference. The population census they refer to was taken in 1825.]

TABLES.

I. *Number of Lunatics in Norway, and Nature of the Affection.*

DISEASE.	NUMBER.		CURABLE.		INCURABLE.	
	Male.	Female.	Male.	Female.	Male.	Female.
Mania	270	242	84	74	186	168
Melancholia	198	178	107	102	91	76
Dementia	168	173	60	60	108	113
Idiocy	369	311			369	311
	1005	904	251	236	754	668
	1909		487		1422	

II. *Proportion of Lunatics to the Population.*

	MALE.	FEMALE.	BOTH.
Population	511033	540285	1051318
Proportion of Lunatics ...	1 in 508½	1 in 597⅔	1 in 550⅔

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* Beretning, Betænkning og Indstilling fra en til at undersöge de Sindssvages Kaar i Norge, og gjöre Forslag til deres Forbedring i Aaret 1825, naadigst nedsat Kongelig Commission. Ifolge Kongelig Resolution udgivet af Frederick Holst, M.D. Christiania, 1828.

A Report from a Commission appointed by the King in 1825, to examine the Condition of Lunatics in Norway, and propose a Plan for its Improvement. Published, by Order of the King, by Frederick Holst, M.D., &c. Christiania, 1828.

III. *Ages of Lunatics.*

AGES.	Mania.		Melancholia.		Dementia.		Idiocy.	
Years.	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.
0 — 5	1	...	..	...	...	..	4	1
5 — 10	7	5	...	...	6	1	32	19
10 — 15	15	10	...	...	2	3	44	33
15 — 20	13	12	2	3	12	8	50	46
20 — 25	19	18	6	6	14	13	62	46
25 — 30	22	18	13	18	20	12	42	40
30 — 40	68	53	45	35	45	32	56	53
40 — 50	45	50	35	35	33	38	37	32
50 — 60	37	34	51	37	21	25	19	19
Above 60	37	39	44	42	14	41	22	18
Not mentioned	6	3	2	2	1	...	1	4
Total	270	242	198	178	168	173	369	311
	512		376		341		680	

IV. *Number of Epileptics among the Lunatics.*

	Mania.		Melancholia.		Dementia.		Idiocy.	
	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.
Epileptic	53	42	12	8	22	20	45	43

V. *Duration of the Disease.*

Duration.	Mania.		Melancholia.		Dementia.		Idiocy.
Years.	Male.	Fem.	Male.	Fem.	Male.	Fem.	Idiocy being assumed to be congenital, its duration is to be found in the Table of Ages of Lunatics.
0 — 1	13	5	16	17	9	9	
1 — 3	17	15	22	24	16	8	
3 — 5	21	20	25	23	16	15	
5 — 10	42	37	40	26	27	34	
10 — 15	36	36	26	32	22	23	
15 — 20	26	23	18	10	22	16	
20 — 30	42	31	26	20	27	27	
30 — 40	23	23	9	9	12	14	
40 — 50	10	8	3	2	2	5	
50 — 60	6	6	1	2	2	3	
Above 60	1	1	1	1	...	1	
Not mentioned	33	37	11	12	13	18	
Total	270	242	198	178	168	173	
	512		376		341		

VI. *Causes.*

PHYSICAL CAUSES.	Mania.		Melancholia.		Dementia.	
	Male.	Fem.	Male.	Fem.	Male.	Fem.
Hereditary Teudency	12	10	8	6	6	5
Childbirth	...	6	...	3	...	7
Epilepsy	...	1	...	...	...	...
Apoplexy	1	...	1	...	4	3
Fever	1	...	5	2	12	5
Blows on the Head	2	1	2	2	7	2
Water on the Brain	...	...	...	...	1	...
Tumours in the Brain*	...	...	...	...	1	...
Catching Cold	2	...	3	...	1	2
Rickets	...	1	...	...	...	...
Weakness of Nerves	1	1	3	5	2	...
Hysteria	...	...	...	5	...	1
Debauchery	2	1	1	...	2	1
Drink	10	1	10	...	4	...
Masturbatio	2	...	1	...	7	...
Total from Physical Causes	33	22	34	23	47	26

VII. *Causes.*

MORAL CAUSES.	Mania.		Melancholia.		Dementia.	
	Male.	Fem.	Male.	Fem.	Male.	Fem.
Neglected Education	...	...	...	...	...	1
Harsh Treatment	2	1	2	2	3	1
Disappointed Hopes	4	2	1	...	...	1
Hopeless Love	13	34	11	29	5	21
Unhappy Marriage	1	5	1	2	...	1
Jealousy	2	2	1	3	1	2
Care	6	7	33	18	7	15
Fright	18	13	8	5	10	10
Fanaticism	6	3	6	12	1	...
Scruples of Conscience	2	2	9	3	1	1
Injured Self-Love	2	...	3	2	2	...
Excess of Study	...	...	4	2	1	...
Passionateness†	1	4	2	6	2	3
Total from Moral Causes	57	73	81	84	33	56
Total from Physical Causes	33	22	34	23	47	26
Causes not assigned	180	147	83	71	88	91
Total	270	242	198	178	168	173

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* We are not sure that we have here rendered the original by the proper word. The Danish *Byld*, no doubt the original of our *Boil*, may mean either a tumour or an abscess. It is sufficient to know that it was a local cause discoverable externally.

† We have preferred this term to *anger*, as better expressing a proneness to anger or passion, which the original term implies.

Hospitals at Paris.

[The following is the most recent account we have met with of the hospital establishments in the French capital; and, as we consider it authentic, we present it to our readers, as an interesting illustration at once of the very extensive provision made for the relief of distress, and of the vast opportunities for seeing disease afforded to the profession in Paris.]

Hôtel Dieu; 1000 beds.—*L'Hôpital de la Pitié;* 600 beds.—*L'Hôpital de la Charité;* 300 beds.—*L'Hôpital Saint-Antoine;* 250 beds.—*L'Hôpital Cochin;* 200 beds.—*L'Hôpital Beaujon;* 180 beds.—*L'Hôpital Necker;* 140 beds.

All kinds of patients are admitted into these hospitals, except children, insane, incurable, lying-in women, and venereal or chronic cases. At L'Hôpital Necker there is a separate department for the treatment of stone by lithotrity.

L'Hôpital des Enfans. Hospital for children; 550 beds for children of both sexes, from two to fifteen years of age.

L'Hôpital St. Louis; 700 beds. Diseases of the skin, ulcers, scrofula, &c. Gratuitous advice daily; vapour, sulphur, and other baths.

L'Hôpital des Vénériens. Venereal hospital; 650 beds.

Maison Royale de Santé; 175 beds. This institution is for the diseased, or wounded, who are not able to have attendance in their own houses, but who pay from three to six francs daily.

Maison d'Accouchement.—Maternité. Lying-in-hospital; 350 beds. Besides these twelve hospitals, there are ten institutions or asylums (*Hospices*).

Hospices des Enfans-Trouvés; 258 beds. Infants deserted by their parents are received here, and suckled.

Two Hospices for the Old.—La Salpêtrière, which contains room for 5,100 women; and *Bicêtre,* for 3,200 men.

Two Hospices for the Incurable. Women and children, 525 beds. Men, 455 beds.

Hospice Larochefoucauld; 200 beds. Asylum for the servants of these institutions, the indigent of both sexes, the aged or infirm, pensioners.

Hospice de Orphelins. Orphan asylum; 750 beds. Half for girls, and half for boys. For children abandoned by their parents, and kept until their majority.

Institution de Sainte-Périne; 175 beds. Aged or infirm of both sexes, who pay a certain sum.

Hospices des Ménages; 670 beds. Indigent married people. Women at least sixty years old, and men seventy. Widows and widowers at sixty.

Hospice St. Michel à St. Maudé; 12 beds for old men of seventy years of age. Founded by M. Boulard, a merchant.

There are therefore, in Paris, 16,549 beds for patients.

Besides these hospitals and asylums, there are a great number of other benevolent institutions.—*La Lancette Française,* No. xciii. 6 *Août,* 1835.

On the Means of increasing the Number of Leeches in France. By M. GUIBOURT.

[A REPRESENTATION having been made to the French government on the subject of preserving and augmenting the number of leeches in France, the opinion of the Academy of Medicine was requested by the minister, and a commission was appointed to make a report on the subject. This report, drawn up by M. Guibourt, was read at the sitting of the Academy on the 22d September last; and as it contains some very interesting details on matters of no slight importance to all who practise medicine, we shall extract a considerable portion of it. The subject becomes more interesting when we reflect that we, as well as the French, derive our supply of leeches from foreign countries.]

Twenty-five years ago more than enough leeches were produced in France to supply the whole demand, at the small price of 15 to 60 francs a thousand. But soon after this, the consumption became so much greater that they were obliged to be obtained from Belgium, Spain, Italy, Bohemia, and even Africa. At present few are procured in France, although the price is 150 to 250 francs a thousand: Brittany and Sologne alone furnish a few for commerce; in other places the quantity does not supply the local wants. Spain and Bohemia are also exhausted: Tuscany affords only an inferior sort, and the vast marshes of Hungary are beginning to be depopulated, so that they are now obtained at the establishment of Vertus near Paris from the frontiers of Russia and Turkey. They are brought from these countries to Palota near Pest, where they are kept in reservoirs belonging to the same establishment, and sent on to Paris as required. At Palota they are packed up in bags, each of which contains from 50 to 70 lb. weight, and these bags are arranged side by side in hammocks, suspended in a light covered cart, like that used by upholsterers, which travels post to Paris in twelve or fourteen days. They never arrive there without delays, for in hot and stormy weather it is necessary to refresh them with water, sometimes twice, but at least once daily. For this purpose there are at Kell large troughs, in which smaller ones are placed, and both are filled with water. The sacs of leeches are emptied into the little troughs, from which the animals escape into the greater ones, and all those which remain at the bottom of the water are rejected as unable to bear the journey. On their arrival at Vertus establishment, they are placed in large reservoirs of running water, of which the banks are planted with reeds. They remain there generally a month, but when the demand is great they have only five or six days' rest, and as they are exhausted with the journey, they are complained of as bad leeches. Young leeches, supposed to have been born on the establishment, are seldom seen, and they are at least eight years attaining their full size: this may not be the natural period of their growth, for the adult leeches grow thin instead of increasing in size in captivity. M. Durand, apothecary at Montereau, has however seen leeches propagate in reservoirs where he keeps them, and he has sent to the academy leeches of from one to two years old. These, however, are not one quarter the full size, and they would therefore take eight years to attain it. This would make them more expensive than if imported. In order to prevent the failure of the supply of leeches, M. Guibourt proposes that those which have been used in the Paris hospitals, (500,000 annually,) should be sent into marshy and uninhabited districts of France to multiply: pits should be dug in the numerous little islands in the rivers for their reception, so that, when winter came, and these islands were overflown, the leeches would be dispersed, and when at full liberty would become healthy, and increase in number; and in a few years there would be less necessity to seek them in foreign countries. An experiment was for some time made with the old leeches of the Hôtel Dieu, which were placed in a pond supplied by a stream, and in five or six months it was found that they could be reapplied. As 70,000 francs are spent annually in the French hospitals for leeches, the question of supply is important.

In a discussion which followed the reading of this report of the Academy, M. Bouillaud stated that he formerly used from 8 to 10,000 annually, but that now he had substituted cupping, and only uses 500. He cups for erysipelas, and on joints attacked with acute inflammation. M. Lisfranc thought leeches were preferable, not only in particular situations where cupping could not be performed, but from their producing a revulsive irritation in the skin, which is attended with excellent effects.

Gazette Médicale de Paris, No. 40, 3 Oct. 1835.

HYGIENE.

On the Diseases of Printers. By A. Chevallier.

[M. Chevallier has been struck with the incomplete way in which the diseases of artisans have been treated, and with the exaggerations and false facts with which works on this subject abound. In the elaborate memoir now before us, he has endeavoured to investigate the diseases of one class, those of printers; and the analysis which we shall make will give an idea of the best plan of pursuing the investigation of these diseases, as well as an exposure of the loose way in which statements have been made by others. In order to collect information, the physician (says M. Chevallier) must study the subject in the workshop and manufactory. He must consult the oldest and most clever workmen in many places; make notes of the information thus obtained, and verify it by examining other workmen on the facts; compare this information with that of the masters; consult practitioners who treat these diseases; and establish statistics of mortality.]

Both workmen and masters have been examined, and some notion of the difficulty of the work may be had, from the fact that M. Chevallier received only 33 written answers to 400 letters to masters.

Is a sedentary life a source of disease?—Printers are less sedentary than the majority of workmen.

Do they become short-sighted?—The work of a compositor does not cause myopia, but increases it. The sight of a compositor is fatigued by night-work, by reading proofs, by correction on the form,* by small type, by the brilliancy of new type, by the difficulty of reading some manuscripts; and by this constant fatigue, the sense of sight is impaired and destroyed. Many compositors at 45 take to glasses. Excess of drink aids the most in weakening sight.

Do they become amaurotic?—Only one case was known of amaurosis, and there are between 3000 and 4000 printers in Paris, two thirds of whom are compositors.

Are their nights disturbed by dreams of types and presses?†—The young and ardent sometimes dream, but it does not fatigue them, and it wears off.

Are they subject to swollen legs, varices, and ulcers?—The habit among compositors of standing at their work causes, in some, trembling, fatigue, and swelling of the legs; and when they become old, and drink hard, varices and ulcers follow.‡ The pressmen, who incessantly work on foot, and who walk in this manner a distance equal to seven or eight leagues daily, are more particularly subject to the same affection. These accidents are ameliorated by sitting during composing, which may be done, except in printing newspapers, where great activity is required; and by wearing laced boots.

Are they subject to colica pictonum?—In some printing-houses it is common, and in others unknown. Those that assert its frequency allow that it has diminished principally, 1st, from a change in the metal of which the types are made; 2d, from precautions taken to clean the boxes and types from powder and dust; 3d, from the greater cleanliness of the workmen, who generally wash their hands before eating and as they leave work. The attacks are not severe; they affect, 1st, apprentices, who put the types in their mouth, or who clean the boxes; 2d, compositors who, whilst making their corrections over the form, put the types in their mouth. These accidents are most frequent when the types are new; the layer of printing ink upon which, hinders the saliva from acting on the metal; for cholic in printers seems to depend on the introduction into the economy of some of the metal, or metallic oxide, which is detached from the types. Some expose themselves to all these causes without suffering: some elderly men were pointed out who never washed their hands, and never had cholic.

Do wounds made during work heal with facility?—Wounds heal readily, but chaps do not, owing to the solution of potash in which the forms are washed. Accidents occasionally happen, and it is therefore necessary when a wound is made, that the part should be kept very clean, and if the case is bad, work should be suspended.

Are compositors subject to tics [neuralgia—spasms] of the hands and face?—Many contract odd movements and grimaces whilst at work, but these are not diseases, and may be corrected.

Are they subject to inflammatory diseases?—Careful inquiry shows that they are not common; and particularly so, when it is recollected that the men take little care in passing from hot to cold places; that they drink hard, and occasionally work excessively hard after loss of time, or when their work presses.

Are they subject to diseases of the chest?—It should be remembered, that from the work of a compositor being gentle and sedentary, as well as somewhat instructive and liberal, it is often chosen by weakly young men, born in the city, who bring with them certain dispositions to disease. It does not appear that printers are more subject to diseases of the chest than others, and such affections proceed from several causes; such as, some cause external to the printing-house; the bent position in which some compositors work; and excess of work, or dissipation.

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* "Form," which is frequently mentioned, is the technical term for types arranged so as to be fit for taking off an impression.

[† This certainly appears a very trifling interrogatory.—ED.]

‡ We believe, from some inquiries of our own, made in London, that these affections of the lower extremities of printers, are by no means confined to the advanced in age, or the intemperate.—ED.]

Are they subject to hernia?—The pressmen are subject to it; but the compositors more rarely. It is a consequence of imprudence and want of precaution. It may arise from the efforts of pressmen to carry, raise, and put on the press, forms, weighing from 40 to 60 pounds, which they usually carry in one hand; or from attempts of compositors to put the form on the table, in order to make corrections.

Are they subject to rupture of the muscles?—No: but the pressmen are subject to an affection (called by them *rossignol),* which they regard as a painful lassitude, or rather a sprain, followed by swelling of the radio-carpal joint. It comes on, 1st, in the workmen, who ink the forms, when they take again to their work after some absence; 2d, in pressmen who have given up their labours, and who attribute it to turning a handle which brings the form under that part of the machine which makes the impression; 3d, when the strap connected with the cylinder which rolls the press happens to break, and the shock falls on the muscles of the wrist. It is not serious, and is cured by a few days' rest. It is less frequent in those printing-houses where the balls used to ink the forms have been replaced by rollers; as it was necessary, in order to cover the former with ink, to turn the two together in a contrary direction, requiring a motion very fatiguing to the fore-arm.

Are they subject to dropsy?—No.

Are they subject to paralysis?—Some cases of paralysis have happened among the old, or debauched, or after falls.

Are they subject to aneurisms, or diseases of the heart?—The evidence of both masters and men was in the negative. The work of the press, which requires repeated efforts of the muscles of the arms, chest, and pelvis, exposes workmen more than others to these diseases; but they will become less frequent in proportion as the American and Stanhope presses are more used, which require less personal exertion.

Are they subject to scrofula, and œdema?—No: a great many lose their colour, although their flesh is firm, and particularly among the compositors of newspapers.

To what diseases are they subject?—According to their masters, the printers who are sober, and regular, are not subject to any disease arising directly from their calling. The greater part of their diseases arise from negligence, carelessness, and excesses.

Longevity of printers. Cadet de Gassicourt has stated, that printers seldom live beyond 45 years; and according to Thackrah, they rarely pass 50. This is not the case; for in 23 printing-houses in Paris, the age of the workmen was respectively as follows:—

NO.		NO.	
1	from 18 to 60 years	13	from 40 to 50 years
2	.... 15 to 50	14	.... 30 to 60
3	.... 12 to 75	15	.... 10 to 70
4	.... 18 to 55	16	.... 25 to 50
5	.... 18 to 50	17	.... 20 to 60 (2)
6	.... 18 to 50	18	.... 20 to 60
7	.... 18 to 60	19	.... 17 to 50
8	.... 20 to 50	20	.... 20 to 45
9	.... 20 to 50	21	.... 18 to 65
10	.... 18 to 40	22	.... 15 to 70 (3)
11	.... 20 to 55	23	.... 17 to 60
12	.... 20 to 40		

M. Chevallier was informed by a workman, that eighteen years ago there was one printing-house in which forty men were employed, twenty-five of whom were between 50 and 70 years: so that it was nicknamed the grey-beard printing-house. The names are given of seventeen printers, now working in Paris, fourteen of whom are 70 years old, one 68, one 62, and one 80. A man named Dubois worked for Didot, jun. until 86 years old, when he died; and another worked until 83 or 84 years old. The tables of mortality of the hospitals in 1831, enumerate twenty-five printers who died between 55 and 78 years. In the hospital for the old, four died at the ages of 69, 78, 64, and 75. M. Chevalier endeavoured to ascertain from statistical tables, the mean duration of the life of printers, and the diseases of which they died during ten years; but so little care had been taken in specifying the branches of the trade which they pursued, that such an undertaking became impossible.

M. Chevallier terminated his inquiry by the question, By what means could the condition of printers be ameliorated?—It was the opinion of most, that this could only be done by endeavouring to convince them of the evils arising from drink, and other excesses, and of the necessity of regular habits, of economy, and of putting by a part of their wages. Some good might be effected by the masters following the example of M. Beauvisage, a dyer, and giving gold medals annually to the best, most sober, and economical workmen. The masters might also exert considerable influence over the men, by only employing sober workmen; and by persuading them to put by a small sum on each pay-day, as a reserve in case of illness or age.

The master-printers should, for the interest of the public health, and that of their workmen: 1. Recommend the men spectacles early enough to preserve their sight. 2. Avoid night-work; and use lamps instead of candles, which give more light, and are less unwholesome. 3. Ventilate the shops, especially when they are being cleaned. 4. Give the compositors seats. 5. Exercise regularity among the pressmen, forbidding them, after debauches, to do six days' work in three: and require that those who work together should be of equal age and strength, so that one should not be over-worked by keeping up with his companion. 6. Recommend laced boots to those whose legs swell. 7. Point out to apprentices and compositors the bad effects of holding type in the mouth. 8. Recommend the men to wash their hands with alkaline water on leaving their work, and before meals. 9. Dress wounds carefully, and keep them clean. 10. Advise warm clothing on leaving the workshop when heated. 11. Explain the dangers of excess. 12. Keep up a moderate temperature in the workshops. 13. Prefer sober workmen. 14. Establish workshops in large, airy, dry places; and the printed paper should not be dried in them; these sheets in drying injure the workmen, by causing a humid atmosphere. The workmen in order to preserve their health should, 1. Ventilate their workshops, by opening the windows at night, and having a sufficient supply of fresh air during the day to replace the air vitiated by respiration, emanations from the body and candles. 2. Rest for some time, if the eyes are weary, or if there is lassitude, fatigue, &c. 3. Guard against bad habits, such as are called in printing-houses tics, which are difficult to lose. 4. Work with moderation, for hard labour like the press, carried to an extreme, debilitates the workman, so that he is unable to work as he advances in years. 5. Preserve moderate warmth by suitable clothing, and keep the feet warm by proper shoes. 6. Live temperately and regularly, so as not to be obliged, from a debauch of several days, to work excessively and live on insufficient food. On days of rest from work walk in the open air, exercise the muscles with gymnastic games, such as ball, running, and long walks.

[To the foregoing important observations, we would merely add, that *compositors* will consult their health by sleeping at a short distance from the towns where they work, and preserving, while at work, the upright position. The occupation of *pressmen* is on the whole healthy; but each should bear in mind the danger of rupture and other mechanical lesions, by suddenly lifting heavy weights of type. The present notice will meet the eye of so many readers interested in whatever relates to literature, or to those in any way connected with it, that we avail ourselves of the opportunity of mentioning that there exists in London, a Society called the "Printer's Pension Society," the assistance of which, by donations or small annual subscriptions from the affluent and liberal, may be the means of preserving many an industrious printer, who has done *his* part in presenting reading to the public, and thus contributing to furnish instruction and amusement, or the best solace of many minds, to thousands of readers, from distress in sickness, or poverty in age.]

Annales d'Hygiène publique, Avril, 1835.

MENTAL DISORDERS.

MORAL MANAGEMENT OF THE INSANE.

[The following striking account of a scene in the Bedlam of Paris is extracted from a paper read at the Academy of Sciences by the son of the celebrated Pinel, describing an act of his father's, which deserves everlasting honour, from the wisdom, courage, and humanity which it displays.]

Towards the end of 1792, Pinel, after having many times urged the government to allow him to unchain the maniacs of the Bicêtre, but in vain, went himself to the authorities, and with much earnestness and warmth advocated the removal of this monstrous abuse. Couthon, a member of the commune, gave way to M. Pinel's arguments, and agreed to meet him at the Bicêtre. Couthon then interrogated those who were chained, but the abuse he received, and the confused sounds of cries, vociferations, and clanking of chains in the filthy and damp cells, made him recoil from Pinel's proposition. "You may do what you will with them," said he, "but I fear you will become their victim." Pinel instantly commenced his undertaking. There were about fifty whom he considered might without danger to the others be unchained, and he began by releasing twelve, with the sole precaution of having previously prepared the same number of strong waistcoats, with long sleeves, which could be tied behind the back, if necessary. The first man on whom the experiment was to be tried was an English captain, whose history no one knew, as he had been in chains forty years. He was thought to be one of the most furious among them; his keepers approached him with caution, as he had in a fit of fury killed one of them on the spot with a blow from his manacles. He was chained more rigorously than any of the others. Pinel entered his cell unattended, and calmly said to him, "Captain, I will order your chains to be taken off, and give you liberty to walk in the court, if you will promise me to behave well and injure no one." "Yes, I promise you," said the maniac; "but you are laughing at me, you are all too much afraid of me." "I have six men," answered Pinel, "ready to enforce my commands, if necessary. Believe me then on my word, I will give you your liberty if you will put on this waistcoat."

He submitted to this willingly, without a word: his chains were removed, and the keepers retired, leaving the door of his cell open. He raised himself many times from his seat, but fell again on it, for he had been in a sitting posture so long that he had lost the use of his legs; in a quarter of an hour he succeeded in maintaining his balance, and with tottering steps came to the door of his dark cell. His first look was at the sky, and he cried out enthusiastically, "How beautiful!" During the rest of the day he was constantly in motion, walking up and down the staircases, and uttering short exclamations of delight. In the evening he returned of his own accord into his cell, where a better bed than he had been accustomed to had been prepared for him, and he slept tranquilly. During the two succeeding years which he spent in the Bicêtre, he had no return of his previous paroxysms, but even rendered himself useful by exercising a kind of authority over the insane patients, whom he ruled in his own fashion.

The next unfortunate being whom Pinel visited was a soldier of the French guards, whose only fault was drunkenness: when once he lost self-command by drink he became quarrelsome and violent, and the more dangerous from his great bodily strength. From his frequent excesses, he had been discharged from his corps, and he had speedily dissipated his scanty means. Disgrace and misery so depressed him that he became insane: in his paroxysms he believed himself a general, and fought those who would not acknowledge his rank. After a furious struggle of this sort, he was brought to the Bicêtre in a state of the greatest excitement. He had now been chained for ten years, and with greater care than the others, from his having frequently broken his chains with his hands only. Once when he broke loose, he defied all his keepers to enter his cell until they had each passed under his legs; and he compelled eight men to obey this strange command. Pinel, in his previous visits to him, regarded him as a man of original good nature, but under excitement, incessantly kept up by cruel treatment; and he had promised speedily to ameliorate his condition, which promise alone had made him more calm. Now he announced to him that he should be chained no longer, "and, to prove that he had confidence in him, and believed him to be a man capable of better things, he called upon him to assist in releasing those others who had not reason like himself; and promised, if he conducted himself well, to take him into his own service." The change was sudden and complete. No sooner was he liberated than he became obliging and attentive, following with his eye every motion of Pinel, and executing his orders with as much address as promptness: he spoke kindly and reasonably to the other patients; and during the rest of his life was entirely devoted to his deliverer. And "I can never hear without emotion (says Pinel's son) the name of this man, who some years after this occurrence shared with me the games of my childhood, and to whom I shall feel always attached."

In the next cell were three Prussian soldiers, who had been in chains for many years, but on what account no one knew. They were in general calm and inoffensive, becoming animated only when conversing together in their own language, which was unintelligible to others. They were allowed the only consolation of which they appeared sensible,—to live together. The preparations taken to release them alarmed them, as they imagined the keepers were come to inflict new severities; and they opposed them violently when removing their irons. When released they were not willing to leave their prison, and remained in their habitual posture. Either grief or loss of intellect had rendered them indifferent to liberty.

Near them was an old priest, who was possessed with the idea that he was Christ: his appearance indicated the vanity of his belief; he was grave and solemn; his smile soft and at the same time severe, repelling all familiarity; his hair was long and hung on each side of his face, which was pale, intelligent, and resigned. On his being once taunted with a question that "if he was Christ he could break his chains," he solemnly replied, "Frustra tentaris Dominum tuum." His whole life was a romance of religious excitement. He undertook on foot pilgrimages to Cologne and Rome; and made a voyage to America for the purpose of converting the Indians: his dominant idea became changed into actual mania, and on his return to France he announced himself as the Saviour. He was taken by the police before the archbishop of Paris, by whose orders he was confined in the Bicêtre as either impious or insane. His hands and feet were loaded with heavy chains, and during twelve years he bore with exemplary patience this martyrdom and constant sarcasms. Pinel did not attempt to reason with him, but ordered him to be unchained in silence, directing at the same time that every one should imitate the old man's reserve, and never speak to him. This order was rigorously observed, and produced on the patient a more decided effect than either chains or a dungeon: he became humiliated by this unusual isolation, and after hesitating for a long time, gradually introduced himself to the society of the other patients. From this time his notions became more just and sensible, and in less than a year he acknowledged the absurdity of his previous prepossession, and was dismissed from the Bicêtre.

In the course of a few days, Pinel released 53 maniacs from their chains: among them were men of all conditions and countries; workmen, merchants, soldiers, lawyers, &c. The result was beyond his hopes. Tranquillity and harmony succeeded to tumult and disorder; and the whole discipline was marked with a regularity and kindness which had the most favorable effect on the insane themselves; rendering even the most furious more tractable.

Memoires de l'Academie de Médecine, t. v. f. 1, 1835.

CHEMISTRY.

Comparative Analysis of White and Grey Cerebral Matter.

M. John is the only chemist who, in his analysis of the brain, has hitherto separately examined the grey and white matter. He has stated that the white matter contained more fat than the grey, and that its albumen was more firm. The following comparative analysis was made of the brain of one of the insane patients who died at the Salpêtrière.

Entire Brain, (Density = 1048.)	
Water	77.
Albumen	9.6
White fatty matter	7.2
Red fatty matter	3.1
Osmazome, lactic acid, and salts	2.0
Earthy phosphates	1.1

	White Substance.	*Grey Substance.*
Water	73.0	85.0
Albumen	9.9	7.5
White fatty matter	13.9	1.0
Red fatty matter	0.9	3.7
Osmazome, &c.	1.0	1.4
Earthy phosphates	1.3	1.2

—*Journal de Chimie Médicale*, Août, 1835.

Solidification of Carbonic Acid Gas.

At a meeting of the Academy of Sciences, October 12th, M. Thiloriet announced that he had reduced carbonic acid gas to a solid form. M. Arago, who read the letter from which the following particulars are extracted, stated that a commission had satisfied themselves of the correctness of the experiments.

Carbonic acid, which is gaseous at ordinary temperature and pressure, and liquid at 0° (C.) or 32° (F.), under a pressure of thirty-six atmospheres, becomes solid at a temperature of 100° (C.) below the freezing point, or (— 148° F.), and remains some minutes in this new condition, even when exposed to the air, without compression.

Its elasticity, which in a liquid state is so great that it produces an explosion equal to the same weight of gunpowder, is destroyed by solidification, and the new solid is gradually dissipated by evaporation. Another curious fact is, that this gas is solidified by its suddenly passing from a liquid to a gaseous state; the near approach of its molecules, which constitutes it a solid, being caused by the expansion of a liquid which occupies instantaneously a space four hundred times greater than its primitive volume. If a jet of carbonic acid is directed into a small glass vial, it becomes rapidly and almost entirely filled with a white flocculent powdery substance, which so strongly adheres to the glass that it cannot be removed unless the bottle is broken. A fragment of solid carbonic acid, slightly touched with the finger, glides rapidly over a polished surface, as if it were raised by the gaseous atmosphere which constantly surrounds it, until it entirely disappears. If a small quantity *(quelques décigrammes)* of this substance is introduced into a small flask, hermetically stopped, the interior becomes filled with a thick vapour, and the stopper is soon driven out violently. Solid carbonic acid is completely evaporated, and only rarely a slight humidity remains, which must be attributed to the action of the air on a very cold body, of which the temperature is below that at which mercury freezes. Its abundance, and the promptitude with which it is produced in cavities where neither air nor watery vapour held in it can penetrate, are characters that cannot be mistaken.—*Gazette Médicale de Paris*, No. 43; 24 Oct. 1835.

PART FOURTH.

Medical Intelligence.

REPORTS OF FOREIGN MEDICINE AND MEDICAL INSTITUTIONS.

ONE of the principal objects contemplated by the Editors in establishing this Journal, was to make the members of the profession in Great Britain more fully acquainted with the state of medical science in other countries. For this purpose, in addition to the more common and obvious sources of information open to them in the productions of the press, of which they determined fully to avail themselves, they conceived that it would be at once extremely interesting and useful, if they could obtain a series of Original Reports of the present State of Medicine, and of the Medical Institutions, in Foreign Countries, concisely drawn up by gentlemen belonging to and resident in them, and consequently well acquainted with their actual condition: and they are happy to say, that their endeavours to obtain this kind of information have met with the most cordial reception from their brethren abroad. The task has been cheerfully undertaken by men of great talent and acquirement, and of the first rank in the profession; and the Editors hope to present to their readers the result of their labours, in an unbroken series of communications, in the consecutive numbers of this Journal. To the first of these Reports, given below, and for which they are indebted to one of the most accomplished physicians in Europe, the Editors hope they may be permitted to refer, as sufficient evidence of the great importance of a collection of similar documents relating to all civilized countries.

ON THE PRESENT STATE OF MEDICINE IN PRUSSIA;

By J. F. C. HECKER, M.D., Professor of Medicine in the University of Berlin.

FIRST REPORT.

Of the Medical Institutions and the Medical Profession.

THE UNIVERSITIES.

PRUSSIA, with a population of 13,510,030, possesses six Universities, each having four Faculties; viz. those of Berlin, Bonn, Breslau, Greifswald, Halle, and Königsberg. The Medical Faculties in these Universities have all the same general arrangements, in accordance with the common system of instruction established in Prussia, but differ in regard to the number of professors and the facilities which they afford for study. In conformity with their statutes, they not only supply the means of instruction in medicine, but afford opportunities for the cultivation and advancement of the whole of the collateral sciences.

I. THE UNIVERSITY OF BERLIN.

The University of Berlin is the most considerable of the whole. It was founded in the year 1809, at a period when Prussia, reduced to half her dominions, was preparing her regeneration, through a more powerful development of her moral strength.

From its very foundation, this university was numerously attended; and, in the year 1834, reckoned on its books 1800 students of all classes, viz. 1294 natives, and 506 foreigners. Of these, 303 studied medicine; of whom, 237 were natives, and 66 foreigners. This was a diminution, by no less than 104, of the number of medical students who attended the university in the preceding year, 1833; there being then on the books 407. This decrease does not depend on any local causes connected with the university, but is explained by the fact that, in Germany generally, the number of students has been regularly decreasing during the last five years. This diminution is more conspicuous in the theological and juridical faculties than in the medical; and, in this last, it is less in the Prussian universities than elsewhere, being indeed very inconsiderable, when the whole number of medical students is considered. The exclusive cause of this falling off in the number of students, more striking perhaps in other states, is the sudden increase of the population in most of the German states, and the disproportion consequently produced between the present and the immediately preceding generation; which circumstance is very adverse to the advancement of young men in general, and forces many to betake themselves to occupations in trade and handicraft. The increase of the population in Prussia alone, since the year 1815, has been two and a half millions.

In the medical faculty of Berlin there are sixteen ordinary professors, (professores publici ordinarii;) ten extraordinary (professores publici extraordinarii;) and fifteen private teachers, or lecturers, (doctores privatim docentes;) so that, taken altogether, the medical instructors in the university amount to forty-one.

The following are the names of the professors, and the subjects belonging to their respective chairs:

Ordinary Professors.

1. C. W. Hufeland, .	Clinical Medicine.[*]
2. Link, ...	Botany, Natural History, and Pharmacology.
3. Von Gräfe, . . .	Surgery.
4. Rust, ...	Surgery.
5. Horkel, ...	Physiology.
6. Horn, ...	Pathology and Therapeutics, and Mental Diseases.
7. Bartels, . . .	Special Pathology and Therapeutics.
8. Busch, ...	Midwifery.
9. Fr. Hufeland, . .	Semeiotics, general and special Pathology and Therapeutics.
10. Osann, ...	Materia Medica.
11. Wagner, . . .	State Medicine.
12. Müller, ...	Anatomy and Physiology.
13. Schlemm, . . .	Anatomy.
14. Schultz, ...	Physiology and Botany.
15. Hecker, ...	History of Medicine, general and special Pathology and Therapeutics.
16. Jüngken, . . .	Diseases of the Eye.

It is here to be observed, that the above statement of the offices of the professors (as is likewise the case in the other universities,) is only to be taken generally; any one of them may give lectures in any department which he chooses. A more fixed arrangement relative to the Nominal Professorships (so called) is expected to be made very shortly.

Extraordinary Professors.

1. Reich, ...	Practical Medicine.
1. Kluge, ...	Surgery.
3. Casper, . . .	State Medicine.

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[*] Hufeland no longer delivers public lectures, but occasionally gives clinical lectures in the Polyclinic of the university.

4. Ehrenberg, . .	Physiology and the Natural Sciences.
5. Kranichfeld, . .	Diseases of the Eye.
6. Eck, ...	Physiology.
7. Wolff, ...	Clinical Medicine.
8. Dieffenbach, . .	Surgery.
9. Trüstedt, . . .	Clinical Medicine and Surgery.
10. Froriep, . . .	Pathological Anatomy.

Private Teachers.

1. Reckleben,
2. Barez,
3. Oppert,
4. Romberg,
5. Gräfe,
6. Ideler,
7. Angelstein,
8. Dann,
9. Ascherson,
10. Nicolai,
11. Phöbus,
12. Wilde,
13. Isensee,
14. Troschel,
15. Mitscherlich.

All the ordinary professors, and four of the extraordinary professors, receive salaries; the joint amount of which is 15,450 rix dollars, (about 2,300*l*. English.)

Medical and Scientific Establishments.

These are more numerous and varied than in any of the other Prussian universities. The following are immediately connected with the university:

1. A Medical Clinic, under the direction of Bartels; the annual expense of which is 1500 dollars, (225*l*.)

2. A Surgical Clinic, under Rust.

3. An Ophthalmological Clinic, under Jüngken.

4. A Midwifery Clinic, under Kluge.

5. A Clinic for Syphilitic Diseases, under the same professor.

6. A Clinic for Children's Diseases, under Barez.

7. A Clinic for Mental Disorders, under Ideler.

All these clinical institutions are held in the Charité Hospital, (Charité-Krankenhaus,) and are maintained by its revenues. In addition to the foregoing, the university has also the following institutions attached to it:

8. A Clinic for Surgery and Diseases of the Eye, under Von Gräfe, (Ziegelstrasse, No. 6,) which costs annually 6,700 dollars, (1000*l*.)

9. A Polyclinic for Ambulatory Practice,* under Osann, in the university buildings, with an expense of 2000 dollars, (300*l*.)

10. Another Polyclinic, under Trüstedt, (Ziegelstrasse, No. 6.) This is dependent on the administration of the Charité, and admits, for pay, a small number of patients confined to their beds, after the manner of the French *Maisons de Santé*.

11. The Obstetric Clinical Institution, under Busch. This occupies a handsome separate building (Dorotheentrasse, No. 1,) and has 5,468 dollars (820*l*.) for its annual support.

12. A Medical Clinic for Surgeons, in the Charité Hospital, under Wolff.

13. An institution for practical instruction in State Medicine, (Medical Jurisprudence and Medical Police,) has existed for some years, under the direction of Wagner. This establishment takes notice of such cases and instances in the department of medical jurisprudence as occur in Berlin, including cadaveric inspections, &c.

The following establishments, valuable in themselves, and much frequented by the students, are well deserving notice; and, with the enumeration of these, this brief account of the Berlin University shall close.

14. The Anatomical Theatre and Museum, under the superintendence of Müller (director,) and Schlemm (prosector). For the support of both establishments, 3,167 dollars (475*l*.) are set apart.

15. A very valuable collection of surgical and obstetrical instruments and bandages, kept up by an annual expenditure of 430 dollars, (64*l*.) under the management of Kluge.

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* For visiting patients at their houses, like our Dispensaries.

16. The Botanic Garden, in New Schöneberg, with a yearly expenditure of 11,228 dollars, (1,684*l.*;) and the University Botanic Garden, with 500 dollars, (75*l.*:) both under Link.

17. The Great Herbarium, in New Schöneberg, with 1200 dollars, (180*l.*)

18. The Mineralogical Cabinet, with 1,520 dollars, (228*l.*) under Weiss.

19. The Zoological Museum, with 2,294 dollars, (344*l.*,) under Lichtenstein.

20. The Collection of Mathematical and Philosophical Apparatus; 500 dollars, (75*l.*)

21. The Royal Library, with 15,102 dollars, (2,265*l.*,) under Wilken.

22. The Institution for Veterinary Medicine. This is a very large and complete establishment, unconnected with the university, but much frequented by the students.

II. THE UNIVERSITY OF BONN.

This is the newest of all the Prussian universities, having been founded only in 1818. Since its establishment, it has enjoyed a constantly increasing prosperity. In the year 1834, there were at this university 816 students; of whom, 710 were natives, and 106 foreigners; of the whole number, 156 (138 natives, 18 foreigners,) were students of medicine.

The Medical Faculty comprehends eleven ordinary and one extraordinary professors, and two private lecturers. The following are the names of the present professors, and the departments in which they teach:

Ordinary Professors.

1. Harless, . . .	Theory of Medicine.
2. Nasse, sen., . .	Pathology, Therapeutics, and Clinical Medicine.
3. Stein, ...	Midwifery. [Has not delivered any lectures for a long time.]
4. Windischmann, sen.,	Theoretical Medicine. [He belongs also to the Faculty of Philosophy.]
5. Mayer, ...	Anatomy and Physiology.
6. Bischoff, . . .	Materia Medica.
7. Eunemoser, . .	Theoretical and Psychical (Mental) Medicine.
8. Naumann, . . .	Special Pathology and Therapeutics.
9. Wutzer, . . .	Surgery.
10. Kilian, ...	Midwifery.
11. Weber, ...	Anatomy.

Extraordinary Professor.

12. Albers, ...	Pathology and Therapeutics.

Private Lecturers.

1. Nasse, jun. 2. Windischmann, jun.

The joint annual salaries of the professors amount to 11,300 dollars, (1,695*l.*)

The university has three clinical establishments:

1. A Medical Clinic, under Nasse, sen., with an annual income of 4,017 dollars, (602*l.*)

2. A Surgical and Ophthalmological Clinic, under Wutzer, with 4,091 dollars, (613*l.*)

3. An Obstetrical Clinic, under Kilian, with 1,773 dollars, (465*l.*)

In all the three establishments, the Polyclinic is adopted, to the great increase of their usefulness. Indeed, in all the Prussian universities due attention is paid to the Polyclinic, and with much advantage; it being very important that the student should be introduced into the private dwellings of the sick, and thereby be made acquainted betimes with the many obstacles which the exigencies of civil life, beyond the walls of hospitals, oppose to the practice of medicine.

4. The Anatomical Theatre and Museum, under the superintendence of Mayer (the director), and Weber (prosector), with an expenditure of 1500 dollars (225*l.*) per annum.

5. The Collection of Surgical Instruments and Bandages, in the care of Wutzer. This is connected with the Surgical Clinic, and is maintained from its funds.

Besides the foregoing more strictly medical institutions, this university is richly provided with establishments and collections for the study of the natural sciences connected with medicine. Of these may be mentioned,

1. The Zoological and Mineralogical Museum, under Goldfuss and Nöggerath; together having an annual expenditure of 1,150 dollars, (172*l.*)
2. The Botanic Garden, under Treviranus and Nees von Esenbeck, with 2,560 dollars, (384*l.*)
3. A Pharmacological Cabinet, under Bischoff, with 50 dollars, (7*l.* 10*s.*)
4. The University Library, under Welcker, with 4621 dollars, (693*l.*)

Besides the above, there are several other smaller establishments belonging to the university, which need not be mentioned.

There exists in Bonn an institution for the cultivation of the whole of the natural sciences, of which Nöggerath, Von München, Treviranus, Goldfuss, and G. Bischof, are the chief managers, and which has hitherto exhibited great activity and been of much use.

III. THE UNIVERSITY OF BRESLAU.

This university was established in the year 1811, on the suppression of that of Frankfurt on the Oder. In 1834, it had 829 students; of which number, 812 were natives, and 11 foreigners: of these, 107 belonged to the faculty of medicine, viz. 101 natives and 6 foreigners.

Ordinary Professors.

1. Remer,	Theory of Medicine and Clinical Medicine.
2. Benedict,	Surgery and Diseases of the Eye.
3. Otto,	Anatomy and Physiology.
4. Wendt,	Practical Medicine.
5. Purkinje,	Physiology.
6. Hentschel,	Botany, History of Medicine, &c.
7. Betschler,	Midwifery.

Extraordinary Professors.

1. Barkow,	Anatomy.
2. Goeppert,	Botany and Natural History generally.

The annual amount of the salaries of the professors is 6,650 dollars, (997*l.*)

Private Lecturers.

1. Hemprich; 2. Seidel; 3. Wentzke; 4. Remer, jun.; 5. Küstner.

Medical Establishments.

1. The Anatomical Theatre and Museum, under Otto (director), and Barkow (prosector), with an annual expenditure of 1898 dollars, (334*l.*)
2. The Museum of Natural History, under Gravenhorst, with 868 dollars, (130*l.*)
3. The Medical Clinic, under Remer, with 2,569 dollars, (385*l.*)
4. The Surgical Clinic, under Benedict, with 2000 dollars, (300*l.*)
5. The Obstetrical Clinic and Polyclinic, under Betschler, with 600 dollars, (90*l.*) Connected with this is a School for the instruction of midwives, with an income of 400 dollars, (60*l.*)
6. The Botanic Garden, under the direction of Nees von Esenbeck, sen., formerly of Bonn, perpetual president of the Leopoldine Academy. This garden has very extensive grounds, and is kept up at an annual expense of 2,610 dollars, (391*l.*)
7. The Mineralogical Cabinet, with 200 dollars (30*l.*), under Glocker.
8. The Collection of Philosophical Instruments, with 80 dollars (12*l.*), under Pohl.

9. The Chemical Laboratory, with 372 dollars (55*l.*), under Fischer.
10. A Physiological Institution, under Purkinje, with no fixed income.
11. The University Library, with 5,130 dollars (769*l.*), under Wachler.

IV. THE UNIVERSITY OF GREIFSWALD.

This university, situated in Pomerania, is one of the oldest in Prussia, having been founded in the year 1456. Although possessed of large revenues from ancient endowments, Greifswald has never raised itself to any importance, and is at this time the most inconsiderable in the kingdom.

In 1834, the number of students was 187; of whom, 172 were natives, and 15 foreigners; and of these, 60 belonged to the faculty of medicine, viz. 54 natives, and 6 foreigners.

Ordinary Professors.

1. Schultze, . . .	Anatomy and Physiology.
2. Bernt, ...	Practical and Clinical Medicine.
3. Mandt, ...	Surgery *
4. Seifert, ...	Pathology and Therapeutics.

Their united salaries amount to 4,163 dollars, (619*l.*)

Private Lecturers.

1. Laurer (prosector); 2. Kneip; 3. Biel.

This university possesses suitable institutions and means for the study of the medical sciences. The following are the principal:

1. A stationary and ambulatory Clinic, under Berndt, with an expenditure of 850 dollars, (127*l.*)
2. A Surgical Clinic, under Mandt.
3. An Obstetrical Clinic, connected with a School for the instruction of midwives, under Berndt, with 380 dollars, (57*l.*)
4. A Botanic Garden, under Hornschuch, with 1,010 dollars, (151*l.*)
5. An Anatomical Theatre and Museum, under Schultze, with 677 dollars, (101*l.*)
6. An University Library, under Schildener, with 1,715 dollars, (257*l.*)
7. A Zoological Museum, under Hornschuch, with 1000 dollars, (150*l.*)
8. A Chemical Institution, under Hünefeld, with 160 dollars, (24*l.*)
9. A Cabinet of Philosophical and Mathematical Instruments, under Tillberg, with 60 dollars, (9*l.*)

V. THE UNIVERSITY OF HALLE.

This university was founded in the year 1694, and, throughout the whole of the eighteenth century, was one of the most distinguished for medical science. Beginning with Stahl and Frederick Hoffmann, this university subsequently possessed many eminent professors. It is now, however, less considerable than many others in Germany.

In 1834, the number of students were 752; of whom, 618 were natives, and 134 foreigners; and of these, 114 belonged to the faculty of medicine, viz. 79 natives, and 35 foreigners.

Ordinary Professors.

1. Krukenberg, . .	Practical and Clinical Medicine.
2. Friedlander, . .	Theoretical Medicine.
3. Niemeyer, . . .	Midwifery.
4. D'Alton, . . .	Anatomy.
5. Blasius, . . .	Surgery.

Extraordinary Professors.

1. Schweigger-Seidel,	Chemistry.
2. Hohl, ...	Surgery.

Their salaries amount to 9,022 dollars, (1,350*l.*)

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* This professor is now absent, and will probably take an appointment in Russia.

The following are the principal establishments, with their yearly endowments:

1. The University Library, under Voigtel, with 2,820 dollars, (423*l.*) This is very valuable.

2. The Botanic Garden, under Von Schlechtendal, with 1,090 dollars, (163*l.*) A valuable establishment.

3. The Obstetrical Institution, under Niemeyer, with 1000 dollars, (150*l.*)

4. The Medical Clinic, under Krukenberg, with 3,040 dollars, (456*l.*)

5. The Surgical Clinic, under Blasius, with 1,210 dollars, (181*l.*)

6. The Anatomical Theatre and Zootomical Museum, under D'Alton.

7. The Zoological Museum, under Nitzsch. This establishment is united with the Zootomical, and both have a revenue of 1,470 dollars, (220*l.*)

8. The Physico-chemical Cabinet and Laboratory, under Schweigger, with 520 dollars, (78*l.*)

9. The Mineralogical Cabinet, under Germar, with 280 dollars, (42*l.*)

10. The Pharmaceutical Institution, under Schweigger-Seidel.

11. A Polyclinic, of considerable extent.

The celebrated Anatomical Museum of Meckel, formerly an ornament of this university, is private property, not having been as yet purchased by the government.

VI. THE UNIVERSITY OF KÖNIGSBERG.

This university was founded in 1544, in the time of the religious wars, and still retains its ancient privilege of admitting only to its professorships such as profess the Protestant faith. Owing to its remoteness, it is chiefly attended by the natives of the province (of Prussia), and only has a small list of students, In 1834, these amounted to 422, (384 natives, and 38 foreigners;) of whom, 83 (70 natives, and 13 foreigners,) belonged to the faculty of medicine.

Ordinary Professors.

1. Burdach, sen., . . .	Physiology.
2. Sachs, ...	Practical Medicine.
3. Klose, (formerly of Breslau,)	Clinical Medicine.
4. Rathke, ...	Anatomy and Physiology.
5. Seerig, ...	Surgery.

Extraordinary Professors.

1. Hayn, ...	Midwifery.
2. Dietz, ...	Practical Medicine.

These have salaries, amounting in all to 5,318 dollars, (797*l.*)

Private Lecturers.

1. Richter; 2. Cruse; 3. Burdach, (prosector:) all advantageously known in medical literature.

The following are the different establishments:

1. The University Library, under the philologist Lobesk, with a yearly revenue of 3,590 dollars, (538*l.*)

2. The Botanic Garden, under Meyer, with 2,100 dollars, (315*l.*)

3. The Anatomical Theatre, under Rathke, with 1,180 dollars, (172*l.*)

4. The Medical Clinic. The nominal director of this is at present Klose, in the room of Elsner, who died in 1834; the duties of the office being fulfilled by the assistant physician, Dietz. The annual expenditure is 2,300 dollars, (345*l.*)

5. The Lying-in Hospital, with which is connected an institution for the instruction of Midwives, under Hayn, with 220 dollars, (33*l.*)

6. The Surgical Clinic, under Seerig, with 2,455 dollars, (368*l.*)

7. The Medical Polyclinic, under Sachs, with 200 dollars, (30*l.*)

8. The Zoological Museum, with 1000 dollars (150*l.*), the directorship of which is at present vacant.

9. The Mineralogical Cabinet, with 100 dollars, (15*l.*)

10. The Cabinet of Philosophical Instruments, with 158 dollars, (23*l.*) Both these are under the direction of Neumann.

From the preceding statement it results, that, in the whole Prussian states, there are somewhat more than eight hundred medical students, and who are instructed by ninety-three teachers,—viz. forty-seven ordinary professors, seventeen extraordinary professors, and twenty-nine private lecturers.—These students, with very few exceptions, all obtain the doctorate; and it is characteristic of the course of study in the Prussian universities, that the students are fitted for their particular branch by previous scientific instruction, and that they, for the most part, belong to the better classes of society. It is a law that no one can be admitted to examination for the degree of doctor who is not provided with a complete education certificate, *(schulzeugniss der Reife—Testimonium maturitatis.)* The consequence of this regulation is, that the numerous body of physicians of the higher class must have a learned preliminary education; inasmuch as the obtaining of this certificate requires not only a thoroughly-grounded knowledge of Latin and Greek, but also of mathematics, physics, history, and the modern languages; all of which cannot well be acquired, even by the youths of the best parts, before the completion of their nineteenth or twentieth year. French is taught in all the schools, and English and Italian in most.

It is sufficiently evident from all this how well the state has consulted the real dignity of the medical profession, and that this principle has not been lost sight of in the formation of the medical constitution of Prussia,—viz. that none but really liberally instructed physicians can promote the progress of medical science, or take a lead in the noble art which they profess. And certainly the state has a perfect right to demand the preliminary qualifications above mentioned from the candidates for the doctorate; inasmuch as there is no other nation in which so much care is taken in promoting elementary education, and none in which access to the seminaries of instruction is made so easy even to the poorer classes, as in Prussia, where the annual school-fees in the colleges are only twenty dollars, (3*l.*) Of these colleges, all furnished with ample means for instruction, there are in the whole kingdom 124, in which the number of teachers is 1,334; and these colleges, in the year 1832, were attended by 24,461 scholars. The number of these last that left the colleges for the university, in the summer session of 1832, with the *testimonium maturitatis*, was 738; and it may be calculated that, in all, about 1,400 scholars leave the colleges every year with these testimonials; of which number, about one seventh or one eighth part devote themselves to the study of medicine. Cases occur where medical students, intending to undergo the examinations for the doctorate, do not bring with them from college this necessary document; but still the law holds good here as in other cases. Such persons are compelled to give in the *testimonium maturitatis* during the period of their university studies, although it may be inferred that the knowledge acquired at this latter period is not so complete as in the early periods of education.

The legal period of study at the university for the candidates for medical honours, is four years: in future, this will probably be extended to five. For the acquisition of the degree of doctor, the following academical examinations are indispensable: 1. The *philosophical examination* (examen philosophicum) in chemistry, physics, zoology, botany, mineralogy, and philosophy, by a board composed of members of the Faculty of Philosophy. This examination, the object of which is to prevent the students from neglecting the study of the natural sciences, as would otherwise be likely enough to happen, may take place after the two first years of study. 2. The *tentamen medicum*, which is an examination conducted both in writing and *viva voce*, before the dean of the Medical Faculty. By this examination, the dean ascertains the capacity of the candidates to undergo the principal examination. 3. The *examen rigorosum*. This, like the preceding, is conducted in Latin, and takes place before the Medical Faculty, in all branches of medicine. 4. The composition of an inaugural dissertation in Latin, on any subject chosen by the candidate. 5. The public defence of this dissertation.

It is proper here to observe, that the possession of the degree of doctor does not, in Prussia, necessarily comprehend the right to practise; which right can only be obtained after submitting to certain official or state examinations, with which the universities have nothing to do. But, previously to noticing these, it is necessary to say a few words respecting some other establishments for medical instruction.

I. THE MEDICO-CHIRURGICAL FREDERICK-WILLIAM'S INSTITUTION.

This, formerly the Medico-Chirurgical Pépinière, was established in the year 1795, and is the elementary school for the higher class of army physicians, who are all educated here, or, at least, with rare exceptions, and these occurring only during war. In this institution there are at present ninety-one students, who are found with board and lodging at the public cost, and occupy a large building set apart for this purpose. They study here for four years, and are under a bond to serve afterwards in the army for eight years. Into this institution only those young men are received who, besides possessing the general requisites for military service, bring with them the *testimonium maturitatis.* These military students follow the complete course of university studies, with more constant reference to surgery, the knowledge of which is so essential in their case: they attend the same lectures as the other students of the university; the only difference in their case being, that the lectures are regularly repeated to them by the pensionary and staff physicians who reside with them in the institution. No repetitions of this sort, or any other examinations besides those already mentioned, take place in the Prussian universities. In all of these the studies are free, and without any special or restrictive supervision; in which respect they differ considerably from the Catholic universities of Austria.

When a student has completed his four years at the institute, he is placed for a year as surgical house-pupil *(Chirurg,)* in the Charité Hospital; a very great advantage in itself, and still further valuable to him, as it reckons as one of the eight years of service in the army. Most of these military students take the degree of doctor before they enter the army, and, while they serve there, the most deserving are promoted to the higher offices. These higher offices are those of regimental-physician and physician-general; but, before any one can attain to these, he must have served a certain time (not fixed), first in the Guards (*Garde*), as surgeon of a company or squadron, and then, being advanced according to seniority of service, in the Institute and Charité, (part of the time in each), as pensionary-physician and staff-physician, *(Pensionnair und Stabsärtze.)* During this latter period they are occupied in carrying on their studies, for which they have excellent opportunities, as well in the *repetitions* with the students of the Institute, as in the performance of their duties as resident surgeons in the hospital. During the same period they undergo their probationary or state-examinations, which are as indispensable in their case as in that of the civil physicians.

Of medical officers thus attaining the higher stations, there are in all thirty-four,—viz. ten staff-physicians, twelve pensionary-physicians, and twelve surgeons of the Guards; and of these, the senior staff-physician always obtains the first vacant office of regimental-physician. The older unpromoted members of the Institute commonly accept their discharge from the service; if they do not choose to become physicians of battalion, having previously undergone the necessary state-examinations.

The Institute is richly endowed with every thing necessary to its ends, and possesses all the collections and instrumental apparatus necessary for instruction, and particularly a very rich medical library. It is under the authority of the first staff-physician-general of the army for the time being, and a director resident in the institution: the former, at present, is Von Wiebel, body physician to the king; the latter, Physician-general Schulz.

II. THE MEDICO-CHIRURGICAL SCHOOLS FOR THE EDUCATION OF SURGEONS.*

Beside the universities which are calculated for the education of the more cultivated and learned physicians, the true heads of the profession, and the Frederick-William Institution, which, in a scientific point of view, may be regarded as connected with the University of Berlin, there exist in Prussia other establishments at which persons of a somewhat lower rank in society, the surgeons of the first and second class, as they are named, may receive instruction. From these, the *testimonium maturitatis* is not required, and consequently they can attain neither the doctorate nor any of the higher official stations; and they are restricted by the laws and regulations to a more limited range of practice than the physicians. At present in Prussia, and long since in Bavaria, where a like class of professional men, under the name of *country-doctors* (landärzte) exists, there is a pretty general conviction that surgeons of this kind are necessary and beneficial to the inhabitants of small towns, and of the country generally; and, on this account, their education has been encouraged. Nevertheless, opinion in the country still varies on this point; many being apprehensive lest the increasing number of the less-instructed class of medical men should too much confine the operations of the more instructed in the class of physicians.

III. THE MEDICO-CHIRURGICAL ACADEMY FOR THE ARMY.

This institution was founded in Berlin in 1811. It has several salaried professors, who however belong also, with few exceptions, to the university. Its object is the education of under-surgeons (Unterchirurgen,) who may attend the lectures given in it, during a period of three years, free of expense, and who, in consequence of this privilege, are bound to serve for three years in the army as Company or Squadron Surgeon. They are very fully instructed in Anatomy, Physiology, Surgery, and everything relating to practical medicine. Their superiors, the Pensionary Physicians of the Frederic-William's Institution, repeat to them the lectures which are delivered in the university. In this establishment there are at this time forty-eight students. Since 1811, there have been in all 499, of whom 308 have entered the army. When, in course of time, they have passed their probationary examinations, they may rise to the rank of Battalion Physicians, if they remain in the army. The greater number of young men, who are well educated, yet unable from deficiency of means to obtain the *testimonium maturitatis*, select this institution as their school; and, when eventually they attain a more fortunate position, they take the necessary steps to obtain the doctorate. The Academy is under the authority of the War Office and immediately under the direction of Ch. W. Hufeland and Von Wiebel. The present professors are:

1. Von Graefe
2. Horn
3. Fr. Hufeland
4. Kluge
5. Von Könen
6. Link
7. Mitscherlich
8. Osann
9. Rust
10. Muller
11. Turte (Physics)
12. Wolf (Philosophy)
13. Eck
14. Reich.

IV. THE SURGICAL PHARMACEUTICAL STUDIUM IN BERLIN.

This is likewise an institution in Berlin, (Rust is the director,) in which young men, who wish to prosecute the study of surgery and pharmacy, are provided with the necessary preparatory information, and are thence admitted to hear the lectures in the University. Particular teachers are not appointed to it, which would be superfluous, the great number of teachers in Berlin being considered. This institution differs from the provincial surgical schools, about to be mentioned in this respect, that no *repetitions* take place in it. In the year 1834, 142 pupils entered, and 123 left this Institution.

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* Medicinisch-Chirurgische Lehranstalten oder Chirurgen-Schulen.

V. PROVINCIAL MEDICO-CHIRURGICAL SCHOOLS.

Of still more recent establishment are the Medico-Chirurgical Schools in the provinces, viz. in Münster, Breslau, Griefswald, and Magdeburg. In these, Anatomy, Surgery, Medicine, Midwifery, are taught in such wise as to fit the students, after three years, to undergo their examinations as surgeons of the first class. They are amply provided with anatomical theatres, clinics, collections, &c., and can even boast of teachers of Latin and the sciences. They differ essentially from the universities in this, that the lectures in them (the schools) are repeated to the students, by repeaters especially appointed for the purpose.

School of Munster. This is the oldest of the provincial schools, having been founded in 1821. It makes use of the City hospital, into which, in a period of five years, about 3000 patients are admitted. It is pretty well attended, and has the following teachers, viz. Roling, Busch, Haindorf, Pellengahr (director of the clinical department), Klovekorn, Tourtual, Klatten, Wirtensohn, Riefenstahl (prosector), Waldeck and Becks; the two last for languages and the sciences, unconnected with medicine. It is to be observed that there is also in Münster an University with two faculties, one Roman Catholic and one Philosophical, with which the medical Institution has no connexion.

School of Breslau. This was opened in the year 1823: it is connected with the university of that place, and makes use of its establishments. The director is Wendt; and the teachers are Otto, Wentzke, Betschler, and Goeppert; Kannegiesser and Schummel superintend the non-medical part of the institution. The repeaters are Barkow, Remer, jun., and Burchardt. This school is also much frequented, and supplies the wants of the very populous province of Silesia; and from it will gradually be furnished even the poorest districts, which formerly had little or no medical assistance.

School of Magdeburg. This was founded in 1827, and has since then educated 273 pupils. At the present time it has 78. In the anatomical theatre there are annually from forty to fifty bodies used in dissection, or for operations; the City Hospital, with 250 beds, offers excellent opportunities for clinical instruction; while the Polyclinic flourishes amid the crowded population of the city. The Obstetrical clinic is only available during the summer session of six months, during which time from fifty to fifty-five labours are obtained for purposes of instruction. The teachers are the following:

1. Andreae, Pathology, Semeiotics, Therapeutics, and Ophthalmology.
2. Brüggemann, Anatomy, Physiology, and Pathological Anatomy.
3. Dohlhoff, . . Surgery and Clinical Surgery.
4. Fritze, . . Materia Medica.
5. Michaelis, . . Natural Sciences.
6. Niemeyer, . . Medical Jurisprudence, Clinical Medicine.
7. Scheibler, . . Surgery.
8. Voigtel, . . Midwifery.
9. Fentzsch, . . Languages.

Repeaters: Faber, Schulz, and Varger.

Directors: Andreae, Fritze, and Scheibler.

School of Griefswald. This is of more recent establishment still: it is united to the university of the same place, and is supplied with professors from it. These are

1. Mandt (Director), Surgery.
2. Schultze, . . Anatomy and Physiology.
3. Berndt, . . Medicine, Clinical Medicine, Midwifery.
4. Seifert, . . Pathology and Therapeutics.
5. Hornschuch, . Natural Sciences.
6. Schoemann, . Languages.
7. Hunefeld, . . Chemistry.

Repeaters: Laurer and Biel.

OF THE CLASSIFICATION, AND FINAL OR STATE EXAMINATIONS OF THE MEMBERS OF THE MEDICAL PROFESSION IN PRUSSIA.

1. *Graduated Physicians.*[*]

There are two classes of these: 1. such as profess and practise both medicine and surgery; 2. such as practise medicine only.

First Class (for both medical and surgical practice.) They must have obtained the degree of M. D., according to the legal forms, in some university, domestic or foreign, and subsequently have undergone the final or state examinations (*staatsprüfungen.*) These constitute a sort of probationary course, consisting of the following parts:

1. *The Anatomical Examination.* In this the candidate has to undergo four different trials: *a*, to demonstrate, on the subject, one of the great cavities, (head, chest, or abdomen,) as regards the form, position, relation, and connexion of the contents; *b*, to describe an anatomical preparation, made by himself under inspection; *c*, *d*, to explain two other preparations in sphlanchnology, neurology, angiology, or osteology, at sight.

2. *The Chirurgical Examination.* The object of this is to test the candidate's knowledge of the manual or operative part of surgery, and to this end he has to undergo the following trials: *a*, he must give in a written surgical exercise on a prescribed subject, must state publicly the substance of it, and perform the operation itself on the dead body; *b*, he must discuss (*disseriren*), *ex tempore*, a question in operative surgery,—must state the principal methods of operating,—must demonstrate his knowledge of the instruments,—and finally perform the operation on the dead body; *c*, he must deliver an *ex tempore* dissertation on a given subject, relating to fractures and dislocations; must point out the proper mode of treatment on the model, and apply the bandages.

3. *The Clinico-Medical Examination.* This lasts fourteen days, during which period the candidate treats two patients, under the inspection of the examination-commission; records the history of the disease in the Latin language; and, in the event of a fatal termination, adds the appearances on dissection. During the whole of this time he is daily examined in pathology and therapeutics.

4. *The Clinico-Surgical Examination.* This likewise lasts fourteen days, and the candidate takes the charge of two surgical patients. The history of the cases is recorded in German, and the daily examinations are on the various phenomena presented by the cases.

5. *The Final or viva-voce Examination.* This takes place in public, and extends to every department of medicine. It is conducted in the German language, by four of the commissioners, and, in general, lasts about three hours.

Second Class (for medical practice only). The candidates in this class have to undergo the same examinations as the former, with the exception of that for operative surgery. Surgical knowledge, however, is equally expected in them as in the others: consequently, they undergo the clinical trials, and, in the oral examinations, are equally tested in surgery; the only difference in both cases being the omission of the operative part.

The Graduated Physicians are the only members of the profession in Prussia who are qualified to fill any medical office, from the lowest, that of *Kreisphysicus* (*quasi* district-doctor), up to the highest, that of *Geheimer Ober-Medicinalrath* (High-Medical-Privy-counsellor.) To qualify, however, for these offices, two other examinations are still requisite, viz. (1) the *obstetrical*, which may take place before any of the medical colleges in Berlin or in the provinces; (2) the *forensic or jurisprudential* (physicats-prüfung), which consists in the composition of four exercises or treatises on given subjects in some of the branches of state medicine, and in an oral examination in the same. This last is undergone only two years subsequently to the probationary trials, and in case the candidate has not exhibited proofs of some particular excellence at that time. To the higher posts in the army, from regimental physician upwards, only physicians of the first class can be appointed,—i. e. such as have gone through all the surgical examinations with credit.

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[*] *Promoverte practische aerzte.* The word *Practische* distinguishes the physicians who practise from those who devote themselves to teaching in the universities.

2. *Surgeons of the First Class.*

These must possess the necessary knowledge of Latin, and have studied three years in some medico-chirurgical school. They must undergo precisely the same examinations as the graduated physicians, with the exception that their exercises in the clinical department are not in Latin; and that, generally, as well in these as in the final oral examination, they are more tested as to practical knowledge than as to literary acquirements. They are not qualified for the higher medical appointments in civil practice; they can only become *Kreischirurgen*, (district-surgeons;) or, at most, *assessors in the medical colleges*, (assessoren an medicinal collegien); and in the army they cannot rise higher than battalion-physician. They are entitled to practise medicine, but not in towns where there is already any graduated physician: in such places they are restricted to the exercise of surgery; a circumstance which induces many, to the great advantage of the public at large, to settle in situations where there is no physician.

3. *Surgeons of the Second Class.*

These are authorised to practise what has been termed *lesser surgery*, also to treat wounds, fractures, and luxations; and they pass examinations to this end at the provincial medical colleges. They may be regarded in the light of assistant surgeons, and constitute a subordinate, but on the whole a necessary and useful body of practitioners. They are restricted from treating internal diseases and from midwifery.

THE SUPERIOR BOARD OF EXAMINATION.

A particular Board or Court with this title (Die Ober-Examinations-Commission,) is established in Berlin, for the probationary examination of candidates. It is at this time directed by Klug, but is under the immediate authority of the government. The present members are:—For the anatomical examination, Müller and Eck; for that in operative surgery, Wagner and Kothe; clinical surgery, Trüstedt and Jüngken; clinical medicine, Bartels and Wolf; and for the final *viva-voce* examination, Link, Osann, Hecker, Busse, Grossheim, Albers, Dieffenbach, and Mitcherlich. According to the regulations, all candidates for the rank of physicians or surgeons of the first class must undergo their examinations in Berlin; but, as it would be severe and unjust to oblige the poorer individuals to submit to the expense of residing in Berlin for half a year, (and the probationary course of examinations cannot well occupy less than this period,) an exception is made in their favour, by which they may undergo their examinations in the medical colleges of Breslau, Magdeburg, or Coblenz. These examinations take place upon the same scale as at Berlin; and, in order to obviate any want of uniformity that might arise, they are all under the control of government.

OF THE NUMBER AND DISTRIBUTION OF THE MEDICAL PROFESSION IN PRUSSIA.

In the year 1833 there were, in Prussia, 2159 graduated physicians, 466 surgeons of the first class, and 1846 surgeons of the second class, making, in all, 4,471; in which number were included 1784 accoucheurs. Besides these, there were 515 apothecaries of the first class, 727 apothecaries of the second class, 17 veterinary surgeons of the first class, and 180 veterinary surgeons of the second class. There were, moreover, 10,766 midwives, all properly instructed and licensed; and none other are allowed to practise.

The distribution of the members of the medical profession is very unequal, depending mainly on the affluence and industrial activity of the several provinces. In the whole kingdom, in 1833, then possessing a population of 13,099,803, there was one physician or surgeon for every 2,929 inhabitants. In Berlin there is a disproportionately large number of medical men, no less than one for every 776 inhabitants; whilst, on the other hand, in the province of East Prussia, one has to take care of the health of 6,025 individuals. So great a disproportion as this certainly exists in no other province, and, indeed, Berlin might spare some part of her medical treasures to the others, without any material loss. In West Prussia, the proportion is one medical man in 5,539 inhabitants; in Pomerania, one in 3,564; in Brandenburg (exclusive of Berlin), one in 2,915; in Posen, one in 4,838; in Silesia, one in 2,924; in [Prussian] Saxony, one in 1,916; in Westphalia, one in 2,677; in Cleves and Berg, one in 2,361; in Niederrhein, one in 3,796.

In general,—still keeping out of view the superfluity of Berlin,—we may observe a satisfactory increase of the members of the medical profession, keeping pace with the increasing population; and although it is true here as every where else that the greater number of professional men settle in the large towns, still there is an obvious improvement in the relative proportion of medical aid to the inhabitants, not only in the smaller towns, but in country places, so that even in this particular, the fitness for its purpose (zwechmässigkeit), of the Prussian medical constitution, is conspicuous over that of the neighbouring states.

MILITARY MEDICAL OFFICERS.

In the foregoing statements, the superior military physicians are included, as they all enter into private practice. The arrangements in the army itself are as follow:—Von Wiebel, first *Staff-physician-general* of the army, is at the head of the whole military medical establishment (there are only three others of the same rank, *viz.* Büttner, Von Gräfe, and Rust). Each of the nine divisions of the army has one *physician-general* of division, and each regiment of the standing army, and every brigade of artillery, has a *regimental physician*. Of this last class, there are at present ninety-two; *viz.* forty-four for the infantry regiments, one for the jager-guard battalion, thirty-eight for the cavalry regiments, and nine for the artillery brigades. Thirty-six infantry regiments have three battalions, the regimental physician taking charge of two, and a battalion-physician the third Two battalion-physicians of the guard have the title of regimental-physician. Eight infantry regiments, with only two battalions, have no battalion-physicians. The militia (Landwehr, an extensive corps,) has no regimental physicians, but physicians of battalion merely, and only one for each battalion-squadron; and of these there are, in this species of troops, somewhere about 152. There are besides, in the large towns and fortresses, garrison staff-physicians appointed, possessing the same rank as battalion-physicians. All military physicians of this rank must have undergone the medical probationary examinations. The inferior medical departments of the army are filled by company or squadron-surgeons, each company and squadron of the standing army having one. Every infantry regiment of three battalions, and every artillery brigade, has twelve of these surgeons, and every cavalry regiment four. The probationary state examinations are not required of these, and they are restricted from engaging in private practice. For the accommodation of the sick, each regiment, during peace, has its own hospital; during war, other arrangements take place.

CIVIL MEDICAL FUNCTIONARIES.

A great number of medical functionaries (Aertzliche Beamte.—Medinalbeamte) are kept in the pay of government, for the purpose of giving opinions in cases having reference to medical police, sanatory regulations, and state medicine, and of assisting the courts in general relating to their department. Every circle or district (kreis), of which there are, in all, 335, has a *kreisphysicus* and a *kreischirurgus:* they both live in the chief town of the district, and besides their salary, which, for the first, is on the average 200 dollars, have their travelling expences defrayed.

Each of the twenty-five governments into which the kingdom is divided, has a *government medical counsellor*, (regierungs-medicinalralh,) for the cognisance of medical cases coming under the notice of the administration, each with a salary of from 900 to 1200 dollars (£135 to £180). To this functionary the *Physici* of the district give in their reports, and from him emanate all the sanatory police arrangements.

Lastly, each of the provinces of the kingdom, eight in number, is provided with a *medical college*, composed of one government medical counsellor, a certain number of medical counsellors, and one surgical and pharmaceutical assessor. These colleges are in Königsberg, Posen, Berlin, Stettin, Breslau, Magdeburg, Munster, and Coblenz, and, besides taking cognizance of the usual cases requiring state interference, are charged with the examination of surgeons of the second class, and also of dentists and apothecaries of the second class. Respecting the examination of midwives, for the instruction of whom in sufficient numbers there are especial schools in several towns, particular regulations exist; and these are so completely effective, that the whole nation is now almost entirely supplied with good midwives. The supreme medical court in Prussia is the *Board for spiritual, educational, and medical affairs* (v. Altenstein), having eight counsellors in the *medical department*, and a *scientific deputation*, consisting of ten members, for reporting on cases laid before it.

HOSPITALS.

Hospitals exist in Prussia, in a number proportioned to the wants of the public. The greater number are civil establishments, only a few being under the immediate direction of government. Those only are employed for purposes of instruction, which are situated in places in which medical schools exist. In Berlin, the *Charité-Krankenhaus*, founded in the year 1726, and having about 1000 beds, possesses the most extensive clinical establishment. As, according to the municipal government of Prussia, every town regulates its own affairs, the principles on which the different hospitals are governed are naturally very various; and hitherto there is no Central Board, which might place all the hospitals in the kingdom on the same general system. The *Curatorium of hospital affairs*, some years since established in Berlin, has as yet only the *Charité* under its direction, and in regard to all the other establishments of the kingdom, can merely advise or recommend. For this reason it becomes necessary to give an account of each of the principal hospitals separately; and this I purpose doing in my next report. I hope also in my next communication to furnish some details respecting the Medical Societies in Prussia, of which *the Hufelandian Medico-chirurgical Society* (Die Hufelandsche Medicinisch-chirurgische Gesellschaft), and *The Prussian Medical Union* (Der Verein für Heilkunde in Preussen), both in Berlin, and *The Rhenish Society of Natural History and Medicine* (Die Rheinische Gesellschaft für Natür-und Heilkunde) in Bonn, are the most considerable. All these can boast of the fellowship of many English physicians.

JUSTUS FRIEDRICH CARL HECKER, M.D.

Berlin; 23d Nov. 1835.

ON THE PRESENT STATE OF MEDICINE IN SPAIN.

As it may be some time before we receive the full report on the State of Medicine and the Medical Institutions of Spain, which is in preparation for us by a distinguished physician and scholar of that country, we present our readers, in the meanwhile, with the following short extract of a letter, just received from our medical correspondent at Madrid, and which possesses a melancholy interest, from the illustration it affords of the miserable state of the medical profession in that fine but long-misgoverned country.

"The medical profession in Spain, as regards its present condition, is in complete harmony with every thing else;—that is to say, it is in a state of revolution. Medical men belong, and with few exceptions have always belonged, to the Liberal party; and the class of *pure Physicians* consisted, almost to a man, of warm Constitutionalists, in the year 1820. By the term pure physicians we understand, in Spain, all those who belong to the universities, in contradistinction to those who belong to the colleges of surgery. When the Constitution was overthrown in 1823, the then absolute king, Ferdinand, incensed against the whole body of pure physicians, worked them all sorts of annoyance, and with much success, as you may believe. At last, and with the view of punishing them most effectually, he issued a decree, in which he commanded that no pure physician should be employed in the palace, the hospitals, or in any establishment under government; that is to say, in no public situation whatever, since in Spain all establishments are more or less under the control of the government; and, to supply their places, he converted surgeons into physicians by royal order, commanded that the colleges of surgery should be of medicine also, and created a great many young men at that time in the colleges *Physician-Surgeons*, (Medico-Cirujanos,) as they are called. The pure physicians, thus expelled from the court, hospitals, the establishments for mineral waters, &c., were compelled to bear their wrongs in silence till Ferdinand died. Since that event they have been in open war with the Board of Medicine, the members of which are the same physician-surgeons now to the queen as they were before to Ferdinand. Unfortunately for the pure physicians, the president of the board, one of the physicians made by royal command, enjoys the confidence of the queen, and until lately has been able to resist the attacks, not only of the physicians but even of the Cortes, by whom the edict of Ferdinand has been unanimously condemned. At length, however, in consequence of the late revolution, and consequent change of government, the president has resigned, and there is now a general expectation that the medical profession will be restored to order.

"The present state of Spain is, as you may well believe, very adverse to the cultivation of science and literature: nobody thinks of any thing but politics. Six months ago we had only four medical Journals in all Spain, and at present we have only two! The four Journals were, *La Gaceta Medica* and *El Boletin de Medicina*, at Madrid; *La Biblioteca Medica*, at Zaragoza; and *Los Archivos Homiopaticos*, at Cadiz. The *Gaceta*, the journal of the physician-surgeons, died two months since of inanition; and I believe the *Archivos* shared a similar fate; so that now we have only the *Boletin*, the organ of the pure physicians, and the *Biblioteca*, which has very few subscribers."

Madrid; Oct. 3, 1835.

PUBLIC HEALTH.

Mr. Buckingham's Bill for establishing Public Walks, Baths, &c.

A Bill was brought into Parliament by Mr. Buckingham, during the last session, to facilitate the formation and establishment of public walks, playgrounds, baths, and places of healthy recreation and amusement in the open air, in the neighbourhood of such cities, boroughs, and towns, as may require them for the use and accommodation of their inhabitants. The design of this Bill is excellent. With the exception of good foot-paths along the most frequented public roads in the neighbourhood of great towns, there is the most perfect disregard shown towards all that part of the population which is condemned to take exercise on foot. Parks and pleasure-grounds are rigorously locked up, commons are enclosed, foot-paths are interdicted, and the mechanic, who wanders forth on a holiday to breathe the fresh air of the country, finds no spot of green on which to rest his feet, or to see his children run about and gather flowers, and does but exchange the air of the manufactory for the dust of the road. Public sports, games, and amusements, there are none; and the close rooms of alehouses are the resort of the workmen in unemployed hours. The refreshment of a bath is unknown to them: if they bathe near a town, they are of course liable to punishment; and public baths are not to be found, or, if existing, are only for the richer class.* Mr. Buckingham's bill authorises the mayor of any town, on the requisition of fifty rate-payers, to call a meeting for the purpose of considering the expediency of establishing walks, baths, &c.; and we sincerely hope that these objects, and all that concerns the public health, will obtain due consideration from the new town-councils. If two thirds of the rate-payers present at such meeting are in favour of the proposal, small assessments may be levied to carry it into effect, under the direction of a committee, assisted by the donations of the wealthier classes.

It is proposed that the public walks be planted with trees and shrubs, and ornamented with fountains or running water. Play-grounds for gymnastic exercises, as cricket, archery, &c., are also to be established, under certain regulations, which will preclude brutal and degrading sports. Baths of every description are to be provided, including schools in which swimming will be taught. No beer, wine, spirits, or intoxicating drinks of any kind, are to be admitted. As, in the neighbourhood of some towns, there are already open spaces which would be suitable for such purposes, the committee are to have the power of granting loans for the improvement of such walks, &c. as are already in existence.

Of the excellence of this design we believe there can be but one opinion. If heartily entered into, it might conduce greatly to the health, cheerfulness, and contentment of large classes of people, who now know no recreation, or none that is really serviceable to them. The question is, however, how far the people of this country are prepared to enjoy such advantages, even if offered to them; and whether they are yet refined enough to take diversion in public walks without a propensity to mischief. It is feared that the grown-up men would quarrel, that the boys would destroy the fountains, and that decent women would be reluctant to enter the walks at all. With all these objections, however, which may not be so real as is supposed, we shall be glad to see Mr. Buckingham's bill carried into effect. Combined with another bill, introduced by the same gentleman, for the promotion of public scientific and literary institutions, libraries, museums, &c., it may tend to improve and raise a class of our population long too much neglected. In this respect, also, England is singularly behind. There are few country towns on the continent so barren of all the means of improvement as many or most of the county towns of our country. Upon the causes of this apparent general indifference to the means of acquiring literary and scientific information, it is not our business to enter: we trust, however, that it will soon give place to a different feeling. In the mean time, only good can arise from the establishment of public baths and public walks, and from a careful attention to all the circumstances in different localities which can affect the health and comfort of the people at large.

THE KING OF SWEDEN AND M. GAMA.

The King of Sweden, through his ambassador, has just presented to M. Gama, (chief surgeon of the Val de Grace,) the title of Chevalier of the order of Vasa, together with a decoration enriched with diamonds. A short time before his departure for Sweden, the king, then prince of Ponte-Corvo, was making a reconnaissance of the enemy's positions, when he was struck by a ball behind and above the mastoid process. M. Gama, surgeon-major of the Avant-garde, was immediately called, and joined the wounded prince in a farm-house, who was giving the necessary orders for the care of his troops, despatching the officers in all directions, and dictating a letter to the emperor. When this was concluded, the prince addressed himself to M. Gama, who dressed the wound after making a necessary incision, and offered him the attendance of one of his surgeons: the prince, however, opposed this, not wishing to take any one from his post, and recommended M. Gama "to go, and give the others their turn." This circumstance, which M. Gama has recently mentioned in his treatise on Wounds of the Head, has refreshed the recollection of the king of Sweden, who immediately sent to the author this honourable proof of his remembrance of his services.

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* We understand that public baths are about to be established at Sheffield, for the accommodation of the working classes.

Gazette Médicale de Paris, No. 43, Octobre 24, 1835.

RESPONSIBILITY OF PRACTITIONERS.—POISONING BY MISTAKE.

An army physician and an apothecary have been fined the sum of two and three hundred francs at Bruges under the following circumstances. The physician had prescribed an emollient enema for one of his patients; but, as it was eleven at night, and the apothecary was in bed, he prepared it himself, with the assistance of one of the servants of the hospital. After having poured into the syringe part of the decoction of senna which he had made, he went to the dispensary, awoke the apothecary, and asked him for some linseed oil: the apothecary took down a bottle from a shelf, and put it on the counter. The physician took it away, and poured part of its contents into the syringe. Unfortunately he neither discovered, from the effervescence produced by the mixture, nor by the vapour, nor smell, (all of which were remarked by the attendant,) that the fluid was sulphuric acid. The clyster was given, and immediately afterwards the patient uttered the most horrible shrieks, and passed the night in acute pain: no remedies were availing, and he died.

Journal de Chimie Medicale. Août, 1835.

BRITISH MEDICAL CORPORATIONS.

No. 1. *Degrees in Medicine* (M.B., M.D.,) *conferred in the British Universities during the last Ten Years.*

Universities.	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	Total
Oxford - -	3	4	1	4	4	2	1	7	6	3	35
Cambridge -	10	7	13	13	14	13	13	12	11	12	118
Edinburgh - -	119	160	93	99	107	120	112	110	110	117	1147
Glasgow - -	26	18	41	33	37	29	48	59	78	79	448
Total in ten years	158	189	148	149	162	164	174	188	205	211	1748

Note 1.—In all the Universities, except Oxford and Cambridge, the degrees are exclusively those of M.D. The following are the respective numbers of M.B. and M.D. degrees in the two last, during the ten years comprehended in the list:

	M.B.	M.D.
Oxford -	24	11
Cambridge -	82	36

In the above list of Oxford graduations, are not included the degrees of M.D. by diploma, granted in July, 1835, at the meeting of the Provincial Medical and Surgical Association, to Dr. Abercrombie, of Edinburgh, and Dr. Prichard, of Bristol; the only instances of diploma M.D. degrees during the last fifty years, with the single exception of Dr. Jenner.

Note 2.—We have not been able to ascertain the number of degrees in medicine conferred in the university of Dublin, nor whether any or what number of degrees in medicine have been conferred at King's College, Aberdeen.

Note 3.—No degree in medicine has been conferred in Marischal College, Aberdeen, since the introduction of the new regulations, about eight years ago, except one honorary degree; and the reason of this seems to be the greater strictness of the regulations in that, than in some other of the Scottish Universities. At Marischal College the candidate, previously to examination, must be twenty-five years of age, and M.A. of some University. The medical students, at this time at Marischal College, are upwards of a hundred; but, latterly, all who have intended to graduate have gone to Edinburgh.

Note 4.—In the year 1833, the Senatus Academicus of the University of St. Andrew's passed new regulations for granting medical degrees, which, although not so strict as those of Marischal College, render necessary, on the part of the candidate, a full course of previous medical study, during four years, and an examination before the Professor of medicine and five physicians and surgeons, denominated *Conjunct Examinators.* The age of the candidate is only required to be twenty-one. Since these regulations have been in force, twenty-one gentlemen have passed their examinations, and obtained the degree of M.D.

No. 2. *Admissions into the Royal College of Physicians, London, during Ten Years.*

	1824	1825	1826	1827	1828	1829	1830	1831	1832	1833	Total
Fellows -	2	5	5	5	4	1	3	9	6	2	42
Licentiates	20	16	14	11	9	7	13	7	6	9	112
Total	22	21	19	16	13	8	16	16	12	11	154

No. 3. *Surgical Diplomas granted by the British Colleges during Ten Years.*

Colleges.	1824	1825	1826	1827	1828	1829	1830	1831	1832	1833	Total
London - -	205	282	302	286	298	340	389	359	267	397	3125
Edinburgh - -	130	152	167	187	185	199	187	177	163	169	1716
Glasgow - -	31	40	23	9	16	20	16	23	18	27	223
Total in each year	366	474	492	482	499	559	592	559	448	593	5064

Note—In Glasgow the diplomas are granted by the university: they are termed Degrees of Master in Surgery, and the Graduates, *Masters in Surgery.*

[In our next Number we shall give the Medical and Surgical Degrees conferred in Dublin, and the Licences granted by the Apothecaries' Company, London, during the same years.]

STUDY OF MATERIA MEDICA.

It is agreeable to reflect on the increased and increasing opportunities afforded to students of physic, of making themselves familiar with the drugs they will afterward have daily to prescribe. A museum of Materia Medica has been recently established by the Royal College of Physicians, Edinburgh; and the object, as stated in the Edinburgh Medical and Surgical Journal, is to have a complete collection both of the ordinary and more rare articles employed in medicine. The College invite professional men and naturalists in the colonies, and other favorable situations, to add to their specimens; and we hope the invitation will be attended to. Looking back some twenty years, one can hardly now believe that students of old might pass through their curriculum, and take a medical degree, without having ever seen any of the articles of the materia medica, and without knowing one article from another. This is certainly one of the improvements of late years. We presume the museum in the Edinburgh College of Physicians will be accessible to teachers and students, without which the collection will do little more than serve the purpose of idle display.

DINNER TO DR. BALMANNO, OF GLASGOW.

A public dinner was given to Dr. Balmanno on the 18th of November, on the occasion of his retirement from the office of Senior Physician to the Glasgow Royal Infirmary. The chair was taken by Dr. Cumin, who so well expressed, when proposing the health of Dr. Balmanno, every thing appropriate to so interesting an occasion, that we should most gladly extract his remarks from the report, did our limits permit. We read the testimony thus conveyed to a very meritorious officer of a public institution with the more gratification, on account of the too numerous instances which have even recently come to our knowledge in which the officers of such institutions, and candidates for medical appointments in them, have been treated with injustice, and even with indignity. It is, however, we must observe, the younger men alone who submit to these degradations. The older physicians and surgeons shew more self-respect. Dr. Balmanno at least has retired with that which should accompany physicians advanced in years and experience; and the honours paid to him on his retirement bear testimony to the honourable public career he has thus finished.

LUNATIC ASYLUM ON AN IMPROVED PLAN—THE MIDLAND RETREAT.

WE have received a Prospectus of an intended Establishment for Lunatics thus designated, which, if carried into effect on the principles and plan announced, cannot fail to be equally advantageous to the profession and to the public. The two introductory paragraphs, which we extract, explain briefly the nature of the proposed institution, and the evils it is intended to remedy.

"It has long been felt throughout the profession, that there is nothing which involves medical men in circumstances so unsatisfactory as the occurrence of insanity in any of their private patients. Without detailing all these circumstances, it is only necessary to observe that it almost always becomes expedient to remove the patient from home, and to abandon the care of him to strangers; often to those residing at a distance, reluctant to communicate with the practitioner who has previously attended the patient, and knows his habits and peculiarities. Although many well-conducted establishments exist in this country, it yet sometimes happens that patients are hastily consigned to houses in which medical treatment is disregarded, and the chief object seems to be to derive a permanent income from the patient's continued confinement; and, in all cases, the patient is taken away from his family medical attendant.

"To obviate, as much as possible, this entire separation of the practitioner from his patient; to secure the remuneration for superintending the treatment of each patient exclusively to medical men; and at the same time to afford an unexceptionable Retreat, from whence regular reports of each patient will be transmitted to his or her former medical attendant; an institution, in short, the entire property and management of which shall be vested in medical men, constituting an extensive partnership or joint-stock company; it is proposed that such a partnership or company be formed, for the institution of such an establishment in the centre of England, to be called the MIDLAND RETREAT."

OBITUARY.

THE Profession, in this country, has recently sustained the loss of some distinguished members, of whom we hope to give some account in our next Number. We can at present only record their deaths.

At London, November, 1835, Sir DAVID BARRY, M.D., in his 58th year.

At Edinburgh, on the 27th October, JAMES HAMILTON, M.D., aged 88, the well-known author of the work on Purgative Medicines.

At Edinburgh, November, 1835, J. W. TURNER, Esq., Professor of Surgery in the University of Edinburgh.

At his seat near Winchester, on the 2d December, 1835, PELHAM WARREN, M.D., of London, Fellow of the Royal College of Physicians, aged 57.

LIST OF ORIGINAL PAPERS PUBLISHED IN THE BRITISH JOURNALS DURING THE LAST QUARTER.*

THE EDINBURGH MEDICAL AND SURGICAL JOURNAL.

No. 125, *Oct.* 1835.

1. Select Cases and Communications, forming Part of the Transactions of the Medico-Chirurgical Society of Edinburgh. Communicated by the Council. [All single cases, except the two following.]

2. Cases of fatal Jaundice, in which the Bile Ducts appeared on Dissection to be pervious and empty; with Observations. By Professor Alison.

3. Abstract of Cases in which a Portion of the Cylinder of the Intestinal Canal, comprising all its Coats, had been discharged by Stool, without the Continuity of the Canal being destroyed. By William Thomson, M.D.

4. On Malposition of the Ovaria, Bladder, and Urethra. By J. T. Ingleby.

5. Observations on the Treatment of Fistula Lachrymalis. By E. Lubbock, M.D.

6. Contributions to the Statistics of the British Army. By Henry Marshall.

7. Observations on Petechial Fevers and Eruptions. By J. H. Peebles, M.D.

8. On Diseases simulating acute inflammatory Attacks of various important Organs, and dependent on Ganglionic and Spinal Irritation. By John Torbet, Esq.

THE DUBLIN MEDICAL JOURNAL.

No. XXII. Sept. 1835.

1. Case in which several Metallic Bodies were found in the Stomach. By Robert Harrison, M.D. &c.

2. Report of a singular Case of Fracture of the Pelvis. By John Houston, M.D.

3. Observations on Diseases of the Stomach, their Sympathies and Complications. By Langston Parker, M.R.C.S.L.

4. First Report of the New Lying-In Hospital, Dublin, for 1834. By T. E. Beatty, M.D. Master of the Hospital, &c.

No. XXIII. Nov. 1835.

5. Practical Observations in Midwifery. By W. F. Montgomery, M.D.

6. Cases of Aneurism, in which some unusual Circumstances were observed. By John Brown, M.D.

7. An Account of Hydatids in the Omentum of Deer, with Observations on their Pathological Changes. By J. Houston, M.D.

8. Case of Poisoning by Sulphuric Acid, with Remarks. By W. Corbet, M.B.

9. Remarks on Partial Amputation of the Foot. By Francis Rynd, A.M. &c.

10. On the Structure of the Mammary Gland in the Cetaceæ, &c. By Arthur Jacob, M.D.

11. On Venereal Diseases of the Testicle. By J. W. Cusack, Esq.

12. A Case of Poisoning by Hydrocyanic Acid, with Observations. By G. T. Geoghegan, M.D. &c.

13. Case of Pulsation of the Veins of the Upper Extremities, with Observations. By Charles Benson, M.D. &c.

14. On the Treatment of Croup. By Dr. Kirby.

THE LANCET.

No. 627, *Sept.* 5, 1835.

1. On the external Use of Opium in the Treatment of Bronchitis and Croup. By Dr. Bow.

2. Report of the Cork-street Fever Hospital, Dublin. By John Eustace, M.D.

No. 630, *Sept.* 26.

3. Observations on the Nature of Inflammation and Irritation. By Henry Searle, Esq.

No. 633, *Oct.* 17.

4. Reflections on Infantile Remittent Fever. By John Alexander, M.D.

5. On the Use of the Supersulphate and Supertartrate of Iron in several Diseases. By J. P. Buckland, Esq.

No. 634, *Oct.* 24.

6. On the Nature of Inflammatory Fever. By H. Searle, Esq.

7. On an Instrument for Auscultation in Vesical Calculi. By Claudius Tarral, M.D.

No. 635, *Oct.* 31.

8. On the injurious Effects of Splints and Tight Bandaging in Fractures of the Bones. By W. C. Radley, Esq.

No. 638, *Nov.* 21.

9. On the Treatment of Fractures without the Aid of Splints or Tight Bandages. By W. C. Radley, Esq.

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* In this list we have omitted the Reports of Lectures, Hospital Reports, and, in general, histories of single cases; also controversial discussions and other matters of temporary interest.

10. Reflections on Infantile Remittent Fever. By John Alexander, M.D.

No. 640, *Dec.* 5.

11. On the Nature and Qualities of Flame. By W. R. Clanny, M.D.

12. On the Law of Mortality in each County of England. By R. T. Edmonds, Esq.

13. Case of Gangrena Senilis, with Remarks. By W. Tagert, Esq.

No. 641, *Dec.* 12.

14. Of Malignant Disease of the Testis. By George Langstaff, Esq. Surgeon.

THE LONDON MEDICAL GAZETTE.

No. 405, *Sept.* 5, 1835.

1. Contributions to the Diagnosis and Pathology of Thoracic Diseases. By Charles Cowan, M.D.

2. Observations on the Changes produced in the Blood in the Course of its Circulation. By C. J. B. Williams, M.D. &c.

3. Objections to Dr. Reid's Experiments on the Nervous System and Muscular Irritability. By J. W. Earle, Esq.

4. Does Arsenic produce Ptyalism? The Affirmative, illustrated by Cases. By Edward Furley, Esq.

No. 406, *Sept.* 12.

5. Remarks on Dr. Hope's Conclusions from certain Experiments on the Sounds of the Heart. By C. J. B. Williams, M.D. F.R.S.

6. Midwifery Hospital Reports for 1834. By E. Rigby, M.D. F.L.S.

No. 408, *Sept.* 26.

7. Report of Surgical Cases treated in the Liverpool Northern Hospital. By J. M. Banner, Esq.

8. On the complicated Forms of Venereal Diseases. By D. H. Walne, Esq.

No. 409, *Oct.* 3.

9. Notice of Dr. E. Harrison's Mode of distinguishing the Boundaries of the Lungs, Liver, &c. By Dr. C. J. B. Williams.

10. On the Functions of the Lingual Branches of the Fifth and Eighth Nerves. By H. Mayo, Esq. F.R.S. &c.

No. 410, *Oct.* 10.

11. On the Cholera of North America. By G. Farr, Esq.

No. 411, *Oct.* 17.

12. On the Application of Comparative Anatomy to Human Embryology. By John Anderson, M.C.S.

13. Observations on a fatal Case of Confluent Small Pox. By S. J. Jeaffreson, M.B.

14. On Fracture of the Patella, with a Description of a new Instrument. By E. F. Lonsdale, Esq.

15. Observations on Animal Temperature. By A. P. W. Philip, M.D.

No. 412, *Oct.* 24.

16. On the Climate of Madeira, and its true Value to the Consumptive. By J. M. Calvert, M.D.

No. 413, *Oct.* 31.

17. On the Efficacy of Ice in Dyspeptic Disorders. By F. Bailey, M.D.

18. On M. Baudelocque's Improvements in Practical Midwifery. By J. C. Cooke, Esq.

19. Report of Fractures treated in the London Hospital. By John Adams, Esq.

No. 414, *Nov.* 7.

20. Some Observations on Animal Temperature. By A. P. W. Philip, M.D.

No. 415, *Nov.* 14.

21. Practical Suggestions for the Improvement of the next Census. By John Rickman, Esq.

22. On Paralysis in Children. By John Badham, M.D.

No. 416, *Nov.* 21.

23. On the Principles regarding Life and Mind. By John Roberton, Esq.

24. On the Efficacy of Sea Water as an internal Remedy. By Ed. Greenhow, M.D.

25. Experiments on the Nerves of the Tongue, proving that the Function of Taste is distinct from that of common Sensation. By Daniel Noble, Esq.

26. On Discharge of Pus from the Ear, after Injuries of the Head. By Cæsar Hawkins, Esq.

27. On the Cure of Prolapsus Uteri. By G. O. Heming, M.D.

No. 418, *Dec.* 5.

28. Report of the Diseases of St. Mary-le-bone. By J. Clendinning, M.D.

29. Structure and Uses of the Intervertebral Substance. By H. Labatt, A.B.

30. Report of Fractures treated in the London Hospital. By John Adams, Esq.

31. On the Nervous Influence and Animal Heat. By C. J. B. Williams, M.D.

32. On the small Size of the Pelvis in Rickets. By A. Shaw, Esq.

No. 419, *Dec.* 12.

33. On certain Theories regarding the Sounds of the Heart. By R. H. Meade, Esq.

34. On the Trichina Spiralis, the Animal found in Human Muscle. By Arthur Farre, M.B.

35. On the Physiology of the Fifth Pair of Nerves. By John Bishop, Esq.

36. Sequel of the extraordinary Case of Abstinence at Ayr. By C. F. Sloan, M.D.

37. On Starvation in a Coal Mine. By Charles Thornhill, Esq.

38. Observations and Researches on a New Method of Curing Cancer. By Alex. Ure, M.D. M.R.C.S.

39. Some Remarks on the Nervous System of Insects. By John Anderson, Esq.

40. On the Nature of the Nervous Influence. By A. P. W. Philip, M.D.

41. On the Faulty and Defective System of our Hospitals in respect to Nurses and Sisters. By John Chatto, Esq.

42. Efficacy of Iodine in Secondary Syphilis. By Forbes Winslow, Esq. M.R.C.S.L.

THE LONDON MEDICAL AND SURGICAL JOURNAL.

No. 195, *Oct.* 24.

1. On the Diseases of the Natives on the Banks of the River Niger. By K. A. K. Oldfield, Esq.

No. 196, *Oct.* 31.

2. A Sketch of the Medical and Statistical History of Epidemic Diseases in Ireland from 1798 to 1835. By W. Stoker, M.D.

3. On the Employment of Capsicum externally in various Diseases. By A. Turnbull, M.D.

No. 197, *Nov.* 7.

4. Practical Observations on Midwifery: on Relaxation of the Uterine Tissue. By W. F. Montgomery, M.D.

No. 199, *Nov.* 21.

5. Some Practical and Medical Contributions to the Science of Mineral Magnetism. By Dr. Charles Schmidt.

No. 202, *Dec.* 12.

6. On Suppuration.—A Paper read before the Medical Society of the London University. By T. Morton, Esq. M.R.C.S.

LIST OF BOOKS RECEIVED FOR REVIEW.

1. A Theoretical and Practical Treatise on Diseases of the Skin. By S. Rayer, M.D. Second Edition. Translated from the French. London, 8vo. pp. 1300, with an Atlas of twenty-six quarto plates. 4l. 8s.

2. A Treatise on the more Obscure Affections of the Brain, on which the Nature and successful Treatment of many Chronic Diseases depend; being the Gulstonian Lectures delivered at the College of Physicians in May 1835. By A. P. W. Philip, M.D. F.R.S.L.E. London, 12mo. 4s.

3. A Treatise on Pulmonary Consumption, comprehending an Inquiry into the Nature, Causes, Prevention, and Treatment of Tuberculous and Scrofulous Diseases in general. By James Clark, M.D. F.R.S. Lond. 8vo. 1835. 12s.

4. Observations on the Climate, Soil, and Productions of British Guiana; with incidental Remarks on the Diseases, their Treatment and Prevention. By John Hancock, M.D. London, 1835. 8vo. p. 89.

5. The Clinique Médicale; or Reports of Medical Cases. By G. Andral, Professor, &c. Condensed and translated, with Observations, &c., by D. Spillan, M.D. Parts I. II. III. 5s. each. *Lond.* 8vo. 1835.

6. An Essay on the Nature of Diseases. By A. Green, LL.B. London 1835. 12mo. 2s.

7. A Statistical Inquiry into the State of the Medical Charities of Ireland; with Suggestions for a Medical Poor Law, &c. By Denis Phelan, Surgeon to the Tipperary Jail, &c. Dublin, 8vo. 1835. 10s. 6d.

8. A Treatise on Hydrocephalus, with the most successful Modes of Treatment. By W. Griffith, &c. London, 1833. 12mo. 3s. 6d.

9. A Treatise on Diet and Regimen. By W. H. Robertson, M.D. London, 1835. 12mo. 6s.

10. Elements of Bedside Medicine and General Pathology, &c. By J. S. Thorburn, M.D. Lond. 1835. 8vo. 14s.

11. Observations on the principal Medical Institutions and Practice of France, Italy, and Germany; with Notices of the Universities, and Cases from Hospital Practice. By E. Lee, M.R.C.S. Lond. 1835. 8vo. 8s.

12. Tables for the Chemical Analysis of Inorganic Bodies. Edin. 1832. 4to. 2s. 6d.

13. On Dropsies connected with suppressed Perspiration and coagulable Urine. By Jon. Osborne, M.D. Lond. 1835. sm. 8vo. 5s.

14. Practical Anatomy of the Nerves and Vessels supplying the Head, Neck, and Chest, intended as a Guide for Students. By E. Cock, Demonstrator of Anatomy at Guy's Hospital, Lond. 1835. 12mo. 7s.

15. Practical Observations on Diseases of the Heart, Lungs, Stomach, Liver, &c., occasioned by Spinal Irritation: and on the Nervous System in general, as a Source of Organic Disease. By John Marshall, M.D. London, 1835. 8vo. 6s. 6d.

16. On Bloodletting. An Account of the Curative Effects of the Obstruction of Blood; with the Rules for employing both local and general Bloodletting in the Treatment of Diseases. By James Wardrop, M.D. Surgeon to the late King, &c. London, 1835. sm. 8vo. 4s.

17. Compendium of the Ligaments; illustrated by Wood-cuts. By A. M'Nab, jun. Member of the Royal College of Surgeons, London. 1835. 12mo. 3s. 6d.

18. Reflections on the Nature of Inflammation, and its alleged Consequences. By David Badham, M.D. one of Dr. Radcliffe's Travelling Fellows from the University of Oxford. Glasgow, 1831. 8vo. pp. 67.

19. The Cyclopædia of Anatomy and Physiology. Edited by R. B. Todd, M.B. Parts I. II. III. IV. London, 1835, royal 8vo. 5s. each part.

20. The Anatomy of the Regions interested in the Surgical Operations performed upon the Human Body, with occasional views of the Pathological Conditions which render the interference of the Surgeon necessary. In a series of Plates, the size of Life. By J. Lebaudy, M.D. Parts I. II. III. London, 1835, folio, 24s.

21. The Nature of Cholera investigated. By J. G. French, M.R.C.S., &c. London, 1835, 8vo. pp. 54.

22. Illustrations of the Botany and other Branches of the Natural History of the Himalaya Mountains. By J. F. Royle, F.L.S. Part VIII. Lond. 1835. 21s.

23. An Essay on Clinical Instruction. By E. C. A. Louis, M.D., &c. Translated by Peter Martin, M.D., M.R.C.S. London, 1835, 8vo. 2s.

24. The Cyclopædia of Practical Medicine. Edited by John Forbes, M.D., F.R.S. Alexander Tweedie, M.D., and John Conolly, M.D. 4 vols. London, 1832-35, royal 8vo. 6l. 15s.

25. The American Cyclopædia of Practical Medicine and Surgery, a Digest of Medical Literature. Edited by Isaac Hays, M.D. Parts I.-VII. Philadelphia, 1833-35, 8vo. 50 cents each part.

26. An Introduction to the Study of Practical Medicine. By J. Macrobin, M.D. 5s.

27. A Practical Treatise on Diseases of the Teeth. By W. Robertson, 1835, 8vo.

28. The Pathology and Diagnosis of Diseases of the Chest; illustrated especially by a rational exposition of their Physical Signs. With new researches on Sounds of the Heart. By C. J. B. Williams, M.D., F.R.S., &c. Third Edition, much enlarged. London, 1835, 8vo.

29. Pathological Researches on Phthisis. By E. C. A. Louis, M.D., &c. Translated from the French, with introduction, notes, additions, and an Essay on Treatment. By Charles Cowan, M.D. Lond. 1835, 12s.

30. A Treatise on Insanity, and other Disorders affecting the Mind. By J. C. Prichard, M.D., F.R.S. Lond, 1835, 8vo. 14s.

31. Pathological Anatomy. Illustrations of the Elementary Forms of Disease. By Robert Carswell, M.D. Professor of Pathological Anatomy in the University of London. Fasciculus I.-VIII. London, 1834-5, folio, 15s. each fasc.

32. A practical Compendium of the Diseases of the Skin. By J. Green, M.D. London, 1835. 8vo. 12s.

33. A Dictionary of Terms used in Medicine and the Collateral Sciences, &c. By R. D. Hoblyn, A.M. London, 1835, small 8vo. 9s.

34. The Medical Student's Guide to the Translation and Composition of Latin Prescriptions. By T. W. Underwood. London, 1835. 12mo.

36. St. Thomas's Hospital Reports. By John F. South, Assistant Surgeon. No. I. Nov. 1835, pp. 118, 3s.

35. A Manual of Aphorisms in Chemistry and Toxicology. For the use of Students preparing for Apothecaries' Hall. By R. Venables, A.M., M.B., Oxon. London, 1836, 7s. 12mo. pp. 270.

36. The Practice in the Liverpool Ophthalmic Infirmary for the year 1834. By Hugh Neill, Surgeon to the Charity. London, 1835, 8vo. pp. 55.

37. The British Medical Almanac for 1836; with Supplement. To be continued annually. London, 1836, 12mo. pp. 160.

38. Rudiments of Physiology. In three Parts. By John Fletcher, M.D., &c. Edin. 1835, 8vo.

39. Syllabus of Lectures on the Diseases of the Nervous System; to be delivered in the Aldersgate School of Medicine. By M. Hall, M.D. &c. Lond. 1835. 8vo. pp. 19.

40. An Introductory Address, delivered at the Commencement of the Tenth Session of the Manchester School of Medicine and Surgery, Pine Street. By James L. Bardsley, M.D., &c.—London, 1835. 8vo. pp. 47.

41. An Address delivered at the First Anniversary Meeting of the Birmingham School of Medicine and Surgery. By James Thomas Law, Chancellor of the Diocess of Litchfield. Birmingham, 1835. 8vo.

42. A Treatise on the Functional and Structural Changes of the Liver in the process of Disease; and on the agency of Hepatic Derangements in producing other Disorders. By W. E. E. Conwell, Surgeon, London, 1835, 8vo. 14s.

43. Clinical Illustrations of the more important Diseases of Bengal, with the result of an Inquiry into their Pathology and Treatment. By William Twining, First Assistant Surgeon, General Hospital, Calcutta. Calcutta, 1835. Second Edition, 2 vols. 8vo. pp. 481, 438. 24s.

44. Supplement to Outlines of Physiology. By W. P. Alison, M.D., F.R.S.E. Professor of the Institutes of Medicine in the University of Edinburgh. Edin. 1836.

45. Manual of Practical Midwifery; containing a description of natural and difficult Labours, with their Management. Illustrated by 15 Engravings. By James Reid, M.D. Surgeon to the Parochial Infirmary of St. Giles, &c. London, 1836, 12mo. pp. 246. 5s. 6d.

46. Tabula Nosologiæ et Historiæ Morborum. By J. R. Nichols, Lond. 1836.

47. A Lecture introductory to the Study of Medical Science, delivered at the Opening of the Andersonian University, Session 1835–6. By Robert Hunter, M.D. Glasgow, 1835. 8vo. pp. 32.

48. A new and complete Manual of Auscultation and Percussion, as applied to the Diagnosis of Diseases. By M. A. Racilorski, M.D. of the Faculty of Paris, translated by William Fitzherbert, B.A. Cambridge, 1 vol. 12mo. 5s.

THE

BRITISH AND FOREIGN MEDICAL REVIEW,

FOR APRIL, 1836.

PART FIRST.

Analytical and Critical Reviews.

Art. I.

The Philosophy of Health; or, an Exposition of the Physical and Mental Constitution of Man, with a View to the Promotion of Human Longevity and Happiness. By Southwood Smith, m.d., Physician to the London Fever Hospital, to the Eastern Dispensary, to the Jew's Hospital. Vol. I.—*London,* 1835. 8vo. pp. 408.

The Principles of Physiology applied to the Preservation of Health and to the Improvement of Physical and Mental Education. By Andrew Combe, m.d., Fellow of the Royal College of Physicians of Edinburgh. *Third Edition, revised and enlarged.—Edinburgh,* 1835. 8vo. pp. 404.

On the Influence of Atmosphere and Locality; Change of Air and Climate; Seasons; Food: Clothing; Bathing; Exercise; Sleep; Corporeal and Intellectual Pursuits, &c. &c. &c. on Human Health; constituting Elements of Hygiène. By Robley Dunglison, m.d., Professor of Materia Medica, Therapeutics, Hygiène, and Medical Jurisprudence, in the University of Maryland, &c.—*Philadelphia,* 1835. 8vo. pp. 514.

Lectures on the Ordinary Agents of Life, as applicable to Therapeutics and Hygiène; or, the Uses of the Atmosphere, Habitations, Baths, Clothing, Climate, Exercise, Food, Drinks, &c. in the Treatment and Prevention of Disease. By Alexander Kilgour, m.d., Member of the Royal College of Surgeons, London.—*Edinburgh,* 1834. 8vo. pp. 359.

Lectures on the Means of Promoting and Preserving Health, delivered at the Mechanic's Institute, Spitalfields. By T. Hodgkin, m.d.—*London,* 1835. 8vo. pp. 449.

The therapeutical part of medicine is so imperfect and unsatisfactory, that we perceive with no small satisfaction the direction taken by the authors of these works, whose character places their motives for composing books adapted to general readers far above vulgar suspicion. There is so much, also, in the subject of hygiène, and so much in these excellent publications, deserving a more particular and more habitual attention on the part of medical men, that we feel assured we shall be doing a useful duty to not a few of our readers, by introducing to their observation some of the topics embraced by these well-informed writers. The great ambition of all young practitioners is, we well know, to attain that kind of confidence which will not only ensure them public consideration, but confer upon them the more flattering distinction of being consulted concerning the means of preserving health in families in which there are numerous children; and yet we know how often the young practitioner, who feels not the shadow of a doubt concerning the prompt administration of calomel and colocynth, and senna and rhubarb, is bereft of all his ready wisdom, when the question propounded to him by an anxious parent is, not how to cure an indulged child of a surfeit, but how to prevent, in a succession of children, the supervention of some of the various forms of scrofula. Who is there, long engaged in practice, whose conscience is completely void of having gone on prescribing medicine in certain families for years, at least at frequent intervals, which families were in reality all that time suffering from some local influence, or some rooted error in physical education? Who is there, we may add, who has not on some occasions found it difficult to feel quite as hearty a pleasure as he ought on finding that maladies, which had for months resisted all medicaments, have been expelled by change of air, of food, of exercise, or of occupation,—in short, by *hygiène;* to which he had been, he could not but acknowledge, to himself at least, unaccountably inattentive.

If, indeed, medicine could remedy the many ills against which it is the object of hygienic authors to warn and guard mankind, we might be jealous of so much wisdom being dispersed among unprofessional and common people, and wish to reserve to the medical profession the ancient honours of cure. But, as not a few of the physical evils which men may be taught to avert are of a nature not to admit perfect relief, when once incurred, it is no less worthy of the physician than of the philanthropist to aid that part of mankind whom ignorance makes helpless, by the diffusion of the most salutary kind of knowledge.

If the application of hygiène were even limited to averting the malady which, under the denomination of consumption, carries away in each year so great a number of early victims, (a subject to which our readers' attention was called in the preceding Number, in our review of Dr. James Clark's excellent Treatise,) it would be worthy of the best consideration that could be given to it. But the protection to be expected from hygienic cautions is much more extended, and the benefits they promise may be diffused over communities, and partaken of in every family and by every individual. All classes have, however, up to this period, been ill informed of the particulars on which such benefits depend; and it is a just matter of congratulation, as regards the public, that in the works before us is to be found instruction adapted to each class.

The difficulty of conveying such instruction, so that its reception may be unalloyed by mischief, arises chiefly from the unprepared state of the general reader, who eagerly snatches at practical deductions, with little regard to the reasoning by which they are established. No kind of reading is more universally fascinating than that of medical books; and many diligent persons are learned in symptoms and prescriptions, or the popular practice of physic, who are wholly unacquainted with the structure and functions of the human body; that structure which they boldly attempt to repair, and those functions which they as rashly presume to regulate.

To such persons, comprehending almost all general readers, Dr. Southwood Smith's book presents a variety of most desirable information, expressed in clear and correct language, and well calculated to prepare them for understanding the principles by attending to which health is to be preserved, or, if lost, regained. With the assistance of numerous plates, he has given to the reader an intelligible view of animal structure, professedly preparatory to a second volume, which is to relate exclusively to health and disease.

No person of education can peruse the volume already published without gratification; and we think it will go far to make anatomy and physiology, what they surely ought to be, popular studies. The volume consists of seven chapters; the first four are devoted to certain general observations introductory to the whole subject, and containing considerations so important and interesting that we shall speak of them more fully. The fifth chapter, which fills up about half of the book, is full of details relating to the general and descriptive anatomy of the human body, which the reader will find given in clear and attractive language, illustrated by numerous and highly instructive plates. The sixth chapter relates to the characters of the blood; and in the seventh, the circulation is described.

As our notice is at present drawn to this interesting work on account of its connexion with the means of preserving the health of individuals and communities, we are precluded from giving any of the many examples that might be selected of the author's powers of description, and can but speak generally of merits on which we could with pleasure dwell in detail. No author within our range of reading, certainly no popular author, has so strongly placed before his readers the great ends to be attained by the preservation of health, or those general views which give importance to the subject of hygiène.

In a very lucid and eloquent chapter, (the first,) Dr. Southwood Smith lays down the characters which distinguish living beings from inorganic bodies, and animals from plants; the latter subject being admirably illustrated by such simple examples as the most unprepared reader can understand; and he briefly and lucidly defines the principles of the greater complexity of animal structure, both in relation to plants and to superiority of function or greater energy of existence. A child, by reading this chapter, might be made acquainted with some of the chief general truths of natural history; and yet the elegance and force of the language would recommend it to the most cultivated reader. We have seldom read any thing surpassing in precision, both as to matter and language, the chapter which follows, in which are explained the diversities in the modes of organic and animal life: and the real difficulty of quoting here consists in this, that we should not know where to leave off. Every reader who advances thus far into the book will, we think, be of our opinion, that, by extent of knowledge, readiness of illustration, and force and propriety of language, Dr. Southwood Smith is eminently qualified for the task of diffusing philosophical truths; and in the present state, and with the present prospects of society, a higher task can hardly be conceived. Familiar as many of the circumstances mentioned are to all medical readers, they are presented even to them in a form which gives them almost the air of novelty, as in the following passage, in which, after noticing some of the general anatomical distinctions between the organs of organic and of animal life, the author thus expresses himself:

> "In general, the apparatus of the organic life is placed in the interior of the body, while that of the animal life is placed on the external surface. The organic organs are the instruments by which life is maintained. There is no action of any one of them that can be suspended, even for a short space of time, without the inevitable extinction of life. But the animal organs are not so much instruments of life as means by which a certain relation is established between the living being and external objects: and this difference in their office is the reason of the difference in their position. Existence depending on the action of the organic organs, they are placed in the interior of the body; they are fixed firmly in their situation, in order that they may not be disturbed by the movements of locomotion; they are enveloped in membranes, covered by muscles, placed under the shelter of bones, and every possible care is taken to secure them from accident, and to shield them from violence. Existence not being immediately dependent on the action of the organs of the animal life, they do not need to be protected from the contact of external objects with extraordinary care; but it is necessary to the performance of their functions that they should be placed at the exterior of the body. And there they are placed, and so placed as to afford an effectual defence to the organic organs. Thus the groundwork of the animal is made the bulwark of the organic life. The muscles, the immediate agents by which voluntary motion is effected, and the bones, the fixed points and the levers by which that motion acquires the nicest

precision, and the most prodigious rapidity and power, are so disposed that, while the latter accomplish, in the most perfect manner, their primary and essential office in relation to the muscles, they serve a secondary but scarcely less important office in relation to the internal viscera. As we advance in our subject, we shall see that a beautiful illustration of this is afforded in the structure and action of the trunk; that the trunk is moveable; that it is composed of powerful muscles, and of firm and compact bones; and that, while its movements are effected by the action of the muscles which are attached to the bones, these bones enclose a cavity, in which are placed the lungs, the heart, the great trunks of the venous system, the great trunks of the arterial system, and the main trunk of the thoracic duct, the vessel by which the digested aliment is carried into the blood. (Chap. 5.) Thus, by these strong and firm bones, together with the thick and powerful muscles that rest upon them, is formed a secure shelter for a main portion of the apparatus of the organic functions of respiration, circulation, and digestion. The bones and muscles of the thorax, themselves performing an important part in the function of respiration, afford to the lungs, the chief organ of this function, composed of tender and delicate tissues, easily injured, and the slightest injury perilling life, a free and secure place to act in. The fragile part of the apparatus is defended by the osseous portion of it, the play of the latter being equally essential to the function as that of the former. In like manner the tender and delicate substance of the brain and spinal cord, the central seat of the animal life, with which all the senses are in intimate communion, is protected by bones and muscles, which perform important voluntary movements; while the organs of sense, which put us in connexion with the external world, which render us susceptible of pleasure, and which give us notice of the approach of objects capable of exciting pain, are placed where external bodies may be brought most conveniently and completely into contact with them; and where alone they can be efficient as the sentinels of the system. For this reason, with the exception of the sense of touch, which, though placed especially at the extremities of the fingers, is also diffused over the whole external surface of the frame, all the senses have their several seats in the head, the most elevated part of the body, of an ovoid figure, capable of moving independently of the rest of the fabric, and which, being supported on a pivot, is enabled to describe at least two-thirds of a circle.

"Such is the difference in the structure and position of the apparatus of the two lives, but the difference in their action is still more striking." (P. 52.)

Very few of the particulars here presented to the medical reader's attention are such as have not been attended to by him before; but they are strikingly expressed, and so as to leave no general reader unsatisfied with the argument conveyed by them.

Dr. Smith then proceeds to describe the difference in the action of these two systems of organs; the unconscious and unfailing movements of the organic apparatus; and the conscious exercise of the animal functions, with their need of relaxation or of rest; the close relation and dependence of all the functions of organic life;

the comparative independence of the animal functions of one another, or at least their capability of separate lesion, separate action, separate repose; the existence of the organic before the animal life, and their primary perfection, contrasting this with the slow attainment of a full exercise of the functions of animal life, as of the actions of the voluntary muscles, the sensations, and the intellectual operations; and, lastly, the circumstances of disease or age in which the animal life is extinguished, and the organic life survives.

In the third chapter of the work we have a condensed view of the apparent objects of all the apparatus before spoken of and subsequently described; in other words, the ultimate objects of organization and life; and these are stated to be pleasure, enjoyment, happiness. We believe we shall not be incorrect in saying, that this chapter contains a kind of summary of what has been much more talked of in late years than well considered, except by a very small but most respectable sect, the followers of the venerable and philanthropic Bentham;—we mean *the greatest happiness principle;* to which Dr. Smith brings the not inapt illustrations derivable from physiology. Structure, he says, is created for the performance of functions; functions are organic and animal; the organic functions are intended for maintaining the condition essential to the performance of the animal functions. Animal life comprises two functions, sensation and voluntary motion, and voluntary motion is the mere servant of sensation.

"Is sensation, then," he continues, "the ultimate object of organization? Simple sensation cannot be an ultimate object, because it is invariably attended with an ultimate result; for sensation is either pleasurable or painful. Every sensation terminates in a pleasure or a pain. Pleasure or pain, the last event in the series, must then be the final end.

"Is the production of pain the ultimate object of organization? That cannot be; for the production of pain is the indirect, not the direct,—the extraordinary, not the ordinary, result of the actions of life. It follows that pleasure must be the ultimate object; for there is no other of which it is possible to conceive. The end of organic existence is animal existence; the end of animal existence is sentient existence; the end of sentient existence is pleasurable existence; the end of life, therefore, is enjoyment. Life commences with the organic processes; to the organic are superadded the animal; the animal processes terminate in sensation; sensation ends in enjoyment; it follows, that enjoyment is the final end. For this every organ is constructed; to this every action of every organ is subservient; in this every action ultimately terminates.

"And, without a single exception in the entire range of the sentient creation, the higher the organized structure the greater the enjoyment, mediately or immediately, to which it is subservient. From its most simple to its most complex state, every successive addition to structure, by which function is rendered more elevated and perfect, proportionally increases the exquisiteness of the pleasure to which the function ministers, and in which it terminates." (P. 74.)

These views are followed by various appropriate observations. The pleasurable consciousness of the proper performance of the organic functions, or what has been called the sense of well-being, although in states of health the organs of those functions do not possess common sensation, which would be useless to us, is not only dwelt on in support of such views, but shewn to be dependent on the anatomy of the nervous system, and illustrated by a figure representing the origins and connexions of some of the spinal nerves and the great sympathetic. In imparting or in limiting sensation, comfort, or pleasure, happiness is shewn to be equally the object. The pleasures of sense are of course pointed to as evincing the same design; and the higher pleasures of the intellect are dwelt upon with equal eloquence and truth. What are termed the sympathetic pleasures are placed in strong contrast to the selfish:—

"As the organic life produces and sustains the animal, so the sympathetic principle is produced and sustained by the selfish. As the organic life is conservative of the entire organization of the body, so the selfish principle is conservative of the entire being. As the animal life is superadded to the organic, extending, exalting, and perfecting it, so the sympathetic principle is superadded to the selfish, equally extending, exalting, and perfecting it. The animal life is nobler than the organic, whence the organic is subservient to the animal; but there is not only no opposition, hostility, or antagonism between them, but the strictest possible connexion, dependence, and subservience. The sympathetic principle is nobler than the selfish, whence the selfish is subservient to the sympathetic; but there is not only no opposition, hostility, or antagonism between them, but the strictest possible connexion, dependence, and subservience. Whatever is conducive to the perfection of the organic, is equally conducive to the perfection of the animal life; and whatever is conducive to the attainment of the true end of the selfish is equally conducive to the attainment of the true end of the sympathetic principle." (P. 91.)

Arguing still for harmony between these two principles, the selfish and the sympathetic, Dr. Smith goes on to state that it is the office of the moral faculty to discover whatever is productive in sensation, emotion, affection, or action, of real instead of delusive pleasure, of pure instead of mixed pleasure, and of lasting instead of temporary pleasure; and that the operation of this faculty, when correct and complete, enables the human being to enjoy the maximum of felicity. In this sense, he observes, virtue is happiness. Dwelling on this interesting subject, he expresses an opinion, doubtless containing much truth, and of much importance, when reflected upon in all its consequences,—that *there is a close connexion between happiness and longevity.*

"Enjoyment is not only the end of life, but it is the only condition of life which is compatible with a protracted term of existence. The happier a human being is, the longer he lives; the more he suffers, the sooner he dies; to add to enjoyment, is to lengthen life; to inflict pain, is to shorten the duration of existence. As there is a point of wretchedness beyond which life is not desirable, so there is a point beyond which it is not maintainable. The man who has reached an advanced age cannot have been, upon the whole, an unhappy being; for the infirmity and suffering which embitter life cut it short. Every document by which the rate of mortality among large numbers of human beings can be correctly ascertained, contains in it irresistible evidence of this truth. In every country, the average duration of life, whether for the whole people or for particular classes, is invariably in the direct ratio of their means of felicity; while, on the other hand, the number of years which large portions of the population survive beyond the adult age may be taken as a certain test of the happiness of the community. How clear must have been the perception of this in the mind of the Jewish legislator when he made the promise, THAT THY DAYS MAY BE LONG IN THE LAND WHICH THE LORD THY GOD HATH GIVEN THEE,—the sanction of every religious observance, and the motive to every moral duty." (P. 101.)

Willing as we are to lend our belief to the principal observation which the above passage conveys, that longevity is closely connected with the enjoyment of mental and bodily comfort, we cannot but remark that there appears to be, both in this and some preceding passages, too obvious a putting aside of any motives to purity of conduct arising out of a contemplation of the source of all the structures and functions there discoursed of, "the fountain of all goodness," the "*Universal* Good," which, notwithstanding a thousand different views of his essential nature, to us hidden and incomprehensible, or dimly seen in these his works, may be the object of universal adoration. The tendency, too, in human beings, to uplift their views towards creatures supposed to realize the perfection at which hitherto mortals have vainly aimed, and the general belief that has grown up in all corners of the earth, that all which we here call life is prefatory to some higher existence, are attributes of our nature which the physiologist cannot overlook. The same may be said of our power of improving the mental faculties and the moral qualities, which seems to connect us with a higher rank of existence, to which we may suppose that we are proceeding. If we exclude all the sense of pleasure arising from a belief that in selecting true from false happiness, so as to secure virtue, we act conformably to the will of the Providence which sustains the great world, is there not some danger lest the selection may be too frequently governed by the selfish principle, clothing itself in the garb of the sympathetic? The tenor of these remarks must shew how remotely we wish to steer from purely religious controversy; and we shall not even dwell longer on what may be thought approaching to metaphysical discussion; but the omission to which we have alluded will no doubt limit the number of Dr. Smith's readers. We know that a critic must often be ignorant of the precise motives for the plan followed by his author, and are willing to allow that Dr. Smith may have had good reasons for overleaping considerations which so consecutive a reasoner could not but have found at one time straight before him. The omission is the more remarkable in an author who has already achieved no inconsiderable reputation by a work upon the Divine Government, which has been pronounced by eminent critics to be equally eloquent and convincing.

Those to whom Dr. Smith's opinions, as expressed in the work before us, would be unexceptionable, must have convinced themselves, like certain sects of ancient philosophers, that man is fully equal to the attainment of perfect happiness in this world, and that what we call the trials of human life are *all* avoidable, and in no degree necessary to moral improvement. To declare hostility to such opinions would expose us to a contest with able gladiators, in an arena which we have no inclination to enter; whilst, to avow how far we go along with them in their prospective views of man's physical and moral amendment would perhaps equally expose us to the charge of optimism.

The conclusion of the chapter from which the above passages are taken is, at all events, too characteristic of the philosophic sect which we set out by mentioning to be omitted. To many mere medical readers, we believe it will present some new matter. To us it seems correct and beautiful; and it furnishes an answer, founded on the past progress of man's knowledge of physical and of moral science, to those who are always too ready to suppose he has already nearly reached the bounds beyond which, in his mysterious progress, he will not be permitted to pass.

"Deeply, then, are laid the fountains of happiness in the constitution of human nature. They spring from the depths of man's physical organization; and, from the wider range of his mental constitution, they flow in streams magnificent and glorious. It is conceivable that, from the first to the last moment of his existence, every human being might drink of them to the full extent of his capacity. Why does he not? The answer will be found in that to the following question: What must happen before this be possible? The attainment of clear and just conceptions on subjects, in relation to which the knowledge hitherto acquired by the most enlightened men is imperfect. Physical nature, every department of it, at least, which is capable of influencing human existence and human sensation; human nature, both the physical and the mental part of it; institutions so adapted to that nature as to be capable of securing to every individual, and to the whole community, the maximum of happiness with the minimum of suffering—this must be known. But knowledge of this kind is of slow growth. To expect the possession of it on the part of any man in such a stage of civilization as the present, is to suppose a phenomenon to which there is nothing analogous in the history of the human mind. The human mind is equally incapable of making a violent discovery in any department of knowledge, and of taking a violent bound in any path of improvement. What we call discoveries and improvements are clear, decided, but for the most part gentle, steps in advancement for the actual and immediately preceding state of knowledge. The human mind unravels the great chain of knowledge link by link: when it is no longer able to trace the connecting link, it is at a stand; the discoverer, in common with his contemporaries, seeing the last ascertained link, and by that led on by analogies which are not perceived by, or which do not impress, others, at length descries the next in succession: this brings into view new analogies, and so prepares the way for the discernment of another link; this again elicits other analogies, which lead to the detection of other links, and so the chain is lengthened. And no link, once made out, is ever lost.

"Chemists tell us that the adjustment of the component elements of water is such, that, although they readily admit of separation, and are subservient to their most important uses in the economy of nature by this very facility of decomposition, yet that their tendency to recombination is equal; so that the quantity of water actually existing at this present moment in the globe is just the same as on the first day of creation: neither the operations of nature, nor the purposes to which it has been applied by man, having used up, in the sense of destroying, a single particle of it. Alike indestructible are the separate truths that make up the great mass of human knowledge. In their ready divisibility, and their manifold applications, some of them may sometimes seem to be lost; but, if they disappear, it is only to enter into new combinations, many of which themselves become new truths, and so ultimately extend the boundaries of knowledge. Whatever may have been the case in time past, when the loss of an important truth, satisfactorily and practically established, may be supposed possible, such an event is inconceivable now, when the art of printing at once multiplies a thousand records of it, and, with astonishing rapidity, makes it part and parcel of hundreds of thousands of minds. A thought more full of encouragement to those who labour for the improvement of their fellow-beings, there cannot be. No onward step is lost; no onward step is final; every such step facilitates and secures another. The savage state,—that state in which gross selfishness seeks its object simply and directly by violence,—is past. The semi-savage or barbarous state, in which the grossness of the selfishness is somewhat abated, and the violence by which it seeks its object in some degree mitigated, by the higher faculties and the gentler affections of our nature, but in which war still predominates, is also past. To this has succeeded the state in which we are at present, the so-called civilized state,—a state in which the selfish principle still predominates, in which the justifiableness of seeking the accomplishment of selfish purposes by means of violence,—that of war among the rest,—is still recognized, but in which violence is not the ordinary instrument employed by selfishness, its ends being commonly accomplished by the more silent, steady, and permanent operation of institutions. This state, like the preceding, will pass away. How soon, in what precise mode, by what immediate agency, none can tell. But we are already in possession of the principle which will destroy the present, and introduce a better social condition, namely, the principle at the basis of the social union,—THE MAXIMUM OF THE AGGREGATE OF HAPPINESS; THE MAXIMUM OF THE AGGREGATE OF HAPPINESS SOUGHT BY THE PROMOTION OF THE MAXIMUM OF INDIVIDUAL HAPPINESS!" (P. 102.)

Not content with the mere enunciation of the opinions above mentioned, respecting the connexion between happiness and longevity, Dr. Southwood Smith has devoted the fourth chapter of his work to certain statistical results, which go far to prove their correctness. He refers to the ordinary observation of every one, in proof of the common influences of good and bad fortune on the appearance of individuals; and he quotes from M. Villermé a statement that the ordinary mortality in the prisons of France is one in twenty-three, although a large majority of the prisoners are between twenty-five and forty-five years of age; and that the mortality of the indigent class throughout the country is double that of the wealthy.

The following considerations are ingenious, and calculated to interest every reader.

"An advanced term of life and decrepitude are commonly conceived to be synonimous: the extension of life is vulgarly supposed to be the protraction of the period of infirmity and suffering; that period which is characterized by a progressive diminution of the power of sensation, and a consequent and proportionate loss of the power of enjoyment; the "sans teeth, sans eyes, sans taste, sans every thing." But this is so far from being true, that it is not within the compass of human power to protract, in any sensible degree, the period of old age, properly so called,—that is, the stage of decrepitude. In this stage of existence, the physical changes that successively take place clog, day by day, the vital machinery, until it can no longer play. In a space of time, fixed within narrow limits, the flame of life must then inevitably expire; for the processes that feed it fail. But though, when fully come, the term of old age cannot be extended, the coming of the term may be postponed. To the preceding stage, an indefinite number of years may be added; and this is a fact of the deepest interest to human nature.

"The division of human life into periods or epochs is not an arbitrary distinction, but is founded on constitutional differences in the system, dependent on different physiological conditions. The periods of infancy, childhood, boyhood, adolescence, manhood, and old age, are distinguished from each other by external characters, which are but the outward signs of internal states. In physiological condition, the infant differs from the child, the child from the boy, the boy from the man, and the adult from the old man, as much in physical strength as in mental power. There is an appointed order in which these several states succeed each other; there is a fixed time at which one passes into another. That order cannot be inverted; no considerable anticipation or postponement of that fixed time can be effected. In all places, and under all circumstances, at a given time, though not precisely at the same time in all climates and under all modes of life, infancy passes into childhood, childhood into boyhood, boyhood into adolescence, and adolescence into manhood. In the space of two years from its birth, every infant has ceased to be an infant, and has become a child; in the space of six years from this period, every male child will have become a boy; add eight years to this term, and every boy will have become a young man; in eight years more, every young man will have become an adult man; and, in the subsequent ten years, every adult man will have acquired his highest state of physical perfection. But at what period will this state of physical perfection decline? What is the maximum time during which it can retain its full vigour? Is that maximum fixed? Is there a certain number of years in which, by an inevitable law, every adult man necessarily becomes an old man? Is precisely the same number of years appointed for this transition to every human being? Can no care add to that number? Can no imprudence take from it? Does the physiological condition or the constitutional age of any two individuals ever advance to precisely the same point in precisely the same number of years? Physically and mentally are not some persons older at fifty than others are at seventy? And do not instances occasionally occur in which an old man, who reaches even his hundredth year, retain as great a degree of juvenility as the majority of those who attain to eighty?

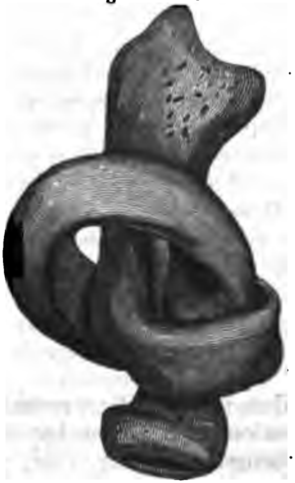
"If this be so, what follows? One of the most interesting consequences that can be presented to the human mind. The duration of the periods of infancy, childhood, boyhood, and adolescence, is fixed by a certain number of years. Nothing can stay, nothing retard, the succession of each. Alike incapable of any material protraction is the period of old age. It follows that every year by which the term of human existence is extended is really added to the period of mature age; the period when the organs of the body have attained their full growth, and put forth their full strength; when the physical organization has acquired its utmost perfection; when the senses, the feelings, the emotions, the passions, the affections, are in the highest degree acute, intense, and varied; when the intellectual faculties, completely unfolded and developed, carry on their operations with the greatest vigour, soundness, and continuity: in a word, when the individual is capable of receiving and of communicating the largest amount of the highest kind of enjoyment.

"A consideration more full of encouragement, more animating, there cannot be. The extension of human life, in whatever mode and degree it may be possible to extend it, is the protraction of that portion of it, and only of that portion of it, in which the human being is capable of RECEIVING AND OF COMMUNICATING THE LARGEST MEASURE OF THE NOBLEST KIND OF ENJOYMENT." (P. 111.)

We have quoted largely from this portion of Dr. Smith's work, because it relates to subjects a little out of the ordinary path pursued by physiologists, and which are stated in a manner likely to procure them at least a dispassionate consideration. For an account of the support given to these animating views of protracted life, afforded by an observation of the actual numbers that die at different ages, we must refer the reader to the chapter from which the preceding passages are taken, and which is full of interest for all to whom the value of life, the reduction of mortality, the increased happiness of the people, and the causes that are producing, and that may be expected to produce further, most desirable results, are proper objects of study. The latter branch of enquiry, or that of the *causes*, is postponed by Dr. Smith to a subsequent volume, and will, we doubt not, be investigated with the same freedom and ability by which the pages of his first volume are distinguished.

Having disposed of these preliminary subjects, Dr. Smith enters, in his fifth chapter, on a description of the structure and functions of the human body, which are explained with a fulness that obviates any accusation of the description being superficial, and yet with a brevity which must prevent any intelligent reader from charging the author with being tedious. We know of no work in which so much general and special anatomy is conveyed in so small a compass, and so intelligibly, and so agreeably. It would be a pleasant task to quote some specimens of the instructive manner in which anatomical and physiological truths are set before the general reader; but, as the descriptions of course comprehend subjects familiar to the medical reader, it might be deemed a work of supererogation so to do. An idea of the copiousness of the illustrations may be afforded by our stating that twenty-two figures are introduced to assist the portion of the text describing the anatomy and movements of the arm and hand. Seeing how powerfully these figures aid the description, we cannot but wonder that the professional student so long remained poorer in helps of this sort than is now the general reader, and look back with surprise upon the unenlivened labours of the closet, by which the industrious learner of anatomy used of old to endeavour to advance faster than the mere lessons of the lecture-room and scanty dissections admitted. One difficulty, however, will be felt by the general student in the perusal of Dr. Smith's work, from the author's exclusive employment of the scientific nomenclature used by the anatomists. This might be obviated by a glossary, explaining, for instance, that scapula means shoulder-blade; clavicle, collar-bone; olecranon, the end of the bone which forms the point of the elbow; the humerus, the bone extending from the shoulder to the elbow, &c. &c.

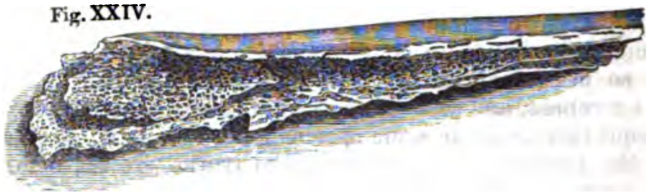
Fig. XXIII.



To our medical readers, few of the illustrative figures would present, perhaps, any novelty; but it may serve to explain Dr. Smith's manner of aiding his descriptions, if we transfer a few of them to our pages. The fact of the softening of a bone, when the osseous portion is destroyed, although the membranous portion may yet retain the original form of the bone, is impressed upon the reader by a representation of the bone in its membranous condition, in which state it is capable of being twisted into a knot.

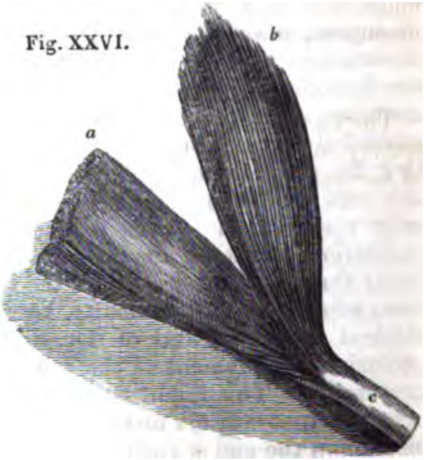
Another figure represents the reverse state of the bone; when its membranous portion has been destroyed by fire, and the earthy part of the bone remains unchanged.

Fig. XXIV.



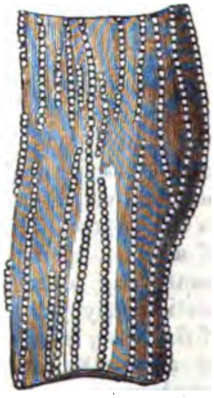
The structure of a muscle, concerning which it is often difficult to give a clear notion to an unprofessional auditor, is readily explained by a figure showing the arrangement of its fibres, their membranous envelope, and their tendinous termination.

Fig. XXVI.



a. A portion of muscle, covered with membrane.
b. Ditto, uncovered.
c. Muscular fibres, terminating in tendon.

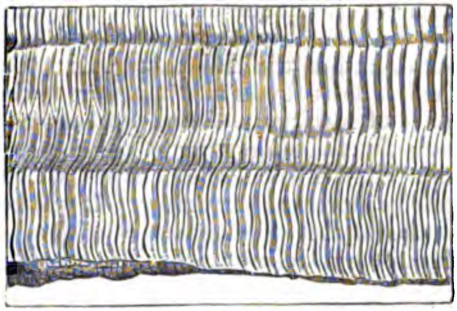
Fig. XXVIII.



And the ultimate structure of muscles, alike curious and interesting to medical and general enquirers, is exhibited as seen through the microscopes, which exhibit it as consisting of a series of rounded particles, or globules, like a string of pearls, each globule being commonly stated to be about the two-thousandth part of an inch in diameter.

But, to prevent an erroneous opinion, which, apparently dependent on ocular proof, might be with difficulty corrected, Dr. Smith informs the reader, that, under microscopes still further improved, these globules disappear, and the muscular tissue appears "as a peculiar pulpy substance, arranged into threads of extreme minuteness, placed close and parallel to each other, intersected by a great number of delicate lines passing transversely across the muscular threads;" and this appearance, as seen under Mr. Lister's microscope, when the object is magnified five hundred diameters, is shewn by

Fig. XXIX.



The two following illustrations are introduced, among others, to convey an idea of the general appearance and the ultimate tissue of nerves.

Fig. XXX.

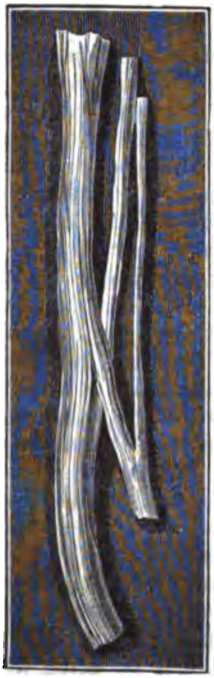
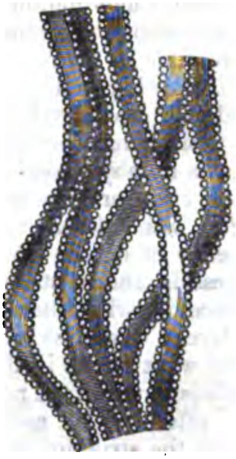


Fig. XXXI.



We well remember a time when even students of medicine would have been glad to obtain such information, and in such a manner.

In the author's dedication of this first volume to Lord Brougham, whose services in the cause of liberal education are so well known as to make any eulogium from us wholly unnecessary, he points out the lamentable fact, that in no school or college in England are included, in the curriculum of study, an explanation of the structure and functions of the human body, or of the phænomena of the human mind, and of the laws that govern the formation and direction of the intellectual and moral powers. He justly enforces the importance of such parts of study to lawyers, to magistrates, and to legislators, mentioning some of the results of the want of this kind of knowledge in such functionaries, which might, indeed, have been greatly increased in number. It will be well for societies when such studies attract more general attention; and we think Dr. Southwood Smith's work can hardly fail to contribute to this desirable effect.

Dr. COMBE's treatise has already been widely circulated, and has passed to a third edition within a year from its first appearance; and it has been republished and stereotyped in America. After setting forth, in a preface, the true importance of the subject of physiology, as applied to the preservation of health and the improvement of physical and mental education, and defended himself and other writers upon it from the possible charge of creating an unnecessary solicitude in the minds of general readers on the subject of health; and shewing in what circumstances some knowledge of this kind would have been serviceable to the public; Dr. Combe introduces the topics which he has selected for illustration, by remarks on the objects of physiology in general; and speaks more particularly of the evils arising from the general ignorance prevalent respecting it, with reference to the Factories' Regulation Bill, and the occurrence of deaths from want of a proper supply of air on board of vessels, and in other situations; and to the existence of a law in France, by which newly-born infants are taken to the mayor to be registered; as well as to a number of examples familiar to most observers of what passes in the rooms of the sick, and to the erroneous opinions to which the neglect of health and the origin of many diseases is often to be ascribed. The topics then particularly treated of are the structure and functions of the skin, the nature of the muscular system, the structure and uses of the bones, and of the lungs; the nature of the nervous system, and the faculties of the mind. To the descriptive part of each of these subjects are appended remarks on the rules by the observance of which each of them may be kept in health, and may conduce to the general health of the body. The rules are shewn to be sensible and judicious by a continual reference to the explanatory portions of the work; and thus the reader is led to wholesome customs, by being taught the reason of their being wholesome. It appears to have been Dr. Combe's first intention, in the selection of his topics, to comprehend such functions as were not only most influential in their operation, but least familiarly known: he states, however, in a note in the third edition, that he is preparing to comply with suggestions which have been frequently made to him, to give a similar account of the functions of digestion, nutrition, the circulation, &c.; and this we are glad to learn, as the popularity of his first volume will ensure the introduction of his second into innumerable families, wherein the valuable information and advice which characterizes his writings will be of material service.

As, next to what concern the function of digestion, no errors are more prevalent than those which might be corrected by a knowledge of the benefit of attending to the condition of the surface, we regard Dr. Combe's first and second chapters, which relate to this part of physiology, as likely to be particularly serviceable to his readers. The first chapter is wholly descriptive of the cuticle, the mucous coat, and the true skin, and contains little which our readers can be supposed to be ignorant of or to have forgotten, but the description is interspersed with remarks which not only relieve it, but usefully exercise the reader's mind. Speaking, for instance, of so simple and common a circumstance as the thickening of the cuticle, it is well observed that

> "The greater thickness of the cuticle in such situations is manifestly the intentional work of the Creator; for it is perceptible even at birth, before use can have exercised any influence. Indeed, were the tender skin not so protected, every violent contraction of the hand upon a rough and hard surface, and every step made on uneven ground, would cause pain, and disable us for exertion.
>
> "By another beneficent provision, calculated to afford increased protection, according to the necessities of the individual, it happens that, when a part is much used, the cuticle covering it becomes thicker and thicker within certain limits, till, in extreme cases, it becomes as thick, hard, and resisting, as horn. It is this thickening of the epidermis on the lady's finger that alone enables her to wield with impunity that important instrument, the needle; and it is the same thickening that fits the blacksmith and the mason, the stonebreaker and the boatman, to ply their trades, without that painful blistering which the young apprentice or unaccustomed labourer so regularly undergoes, and which must have continued to recur for ever, had the cuticle been organized with blood-vessels and nerves, or not subjected to this law of becoming thicker wherever increased protection is required.
>
> "Another modification of the cuticle to suit a modification of circumstances, is that observed in the nails. These belong to the scarf-skin, and separate with it; and, like it, they have neither blood-vessels or nerves, and may be cut or bruised without pain. When the hand or foot is macerated in water, the nails and the cuticle show their identity of organization, by separating together from the dermis or true skin below. The nails, like the cuticle, serve chiefly to protect the subjacent parts from injury; and, accordingly, in those lower animals whose manner of life subjects their feet to continual pressure, and requires no nice exercise of touch, nature has provided horny and resisting hoofs for their protection, instead of a merely thickened epidermis.

"To produce thickening of the cuticle, exercise must be gradual, and not too severe. If, for example, a person takes a very long walk, rows a boat, or makes use of a heavy hammer, for a few hours, without having been accustomed to such an effort, there is no time for the cuticle to thicken and defend itself from the unusual friction. The parts below, being inadequately protected, become irritated and inflamed, and throw out a quantity of watery fluid or serum on their surface, which raises up the cuticle in blisters, and, by making it painful to continue the pressure, obliges the person to desist from an exercise, which, if continued, would evidently soon alter the structure of the sentient nervous filaments, and for ever unfit them for their proper uses. So that, even in this result, beneficence and wisdom are prominently displayed." (P. 43.)

Observations of this kind awaken every reader's attention, by shewing that in all which surrounds us, and in every part of the corporeal fabric, there is matter for reflection and enquiry; that there is nothing trivial in the system of which the corporeal fabric forms a part. Thus, also, in speaking of the mucous coat, Dr. Combe glances at the interesting fact that this coat is the seat of the magnificent colouring of the skin of many fishes and other animals, in which it has often almost a metallic splendour: and he at once conveys the impression of the undoubted importance of the true skin and its functions, by describing the average extent of its surface as 2500 square inches, and this extent so crowded with blood-vessels and with nerves as almost to seem a network of them; and in this manner he prepares every reader to consider the extensive influence of it, "1st, as an exhalent of waste matter from the system; 2dly, as a joint regulator of the heat of the body; 3dly, as an agent of absorption; and, 4thly, as the seat of sensation and touch." Each of these properties is well explained; the chief facts connected with each are simply stated, and the inferences are clearly and convincingly attached to them. The office of the skin as an exhalent organ is not only calculated to surprise a reader previously unacquainted with the subject, but he may gather serviceable hints, of daily application, from that which occasions his surprise. The necessity of attending to the state of the surface is seen at once, on the announcement that from the surface alone at least twenty ounces of waste matter are removed from the system in every twenty-four hours, in a state invisible to the eye. The evils which may follow a checked perspiration, or long exposure of the skin to cold, can never be forgotten by those who have learnt this simple fact: the unprofessional reader will no longer be disposed to look upon extensive cutaneous affections, measles, or small-pox, for instance, as things to be lightly thought of, and the serious injury ensuing in internal organs after an extensive burn on the surface becomes explained: and all this knowledge it is most desirable that the public should possess, for it is not of the kind which leads to quackery, but rather to a more just appreciation of the talents of a practitioner, and more reasonable expectations from the employment of remedial means in the hands of the well informed.

In the same way, the statements given by Dr. Combe respecting the part borne by the skin in regulating animal temperature, bring with them salutary suggestions applicable to those exposed to the influence of warm climates, or of the night air in our own; and the account given of its absorbing power is connected with momentous precautions respecting dress, and exposure to concentrated and unwholesome effluvia or miasmata. How many interesting practical points are comprehended, for instance, in the following extract. The professional reader, even, cannot be reminded of them without advantage.

"When the perspiration is brought to the surface of the skin, and confined there either by injudicious clothing or by want of cleanliness, there is much reason to suppose that its residual parts are again absorbed, and act on the system as a poison of greater or less power, according to its quantity and degree of concentration; thereby producing fever, inflammation, and even death itself; for it is established by observation, that concentrated animal effluvia form a very energetic poison. The fatal consequences which have repeatedly followed the use of a close water-proof dress by sportsmen and others, and the heat and uneasy restlessness which speedily ensues where proper ventilation is thus prevented, seem explicable on some such principle.

"It is believed by many that marsh miasmata, and other poisons, are absorbed by the skin; and Bichat considered the fact as established in regard to the effluvia of dissecting-rooms. There are many reasons for concurring in this belief. The plague, for instance, is known to be much more readily communicated by contact than by any other means, and this can happen only through the medium of absorption. Again, it is certain that flannel and warm clothing are extremely useful in preserving those who are unavoidably exposed to the action of malaria and of epidemic influences; and these manifestly act chiefly by protecting the skin. A late writer on the Malaria of Rome strongly advocates this opinion, and expresses his conviction that the ancient Romans suffered less from it, chiefly because they were always enveloped in warm woollen dresses. This opinion, he says, is justified by the observation, that, since the period at which the use of woollen clothing came again into vogue, intermittent fevers have very sensibly diminished in Rome. Even in the warmest weather, the shepherds are now clothed in sheepskins. Brocchi, who experimented extensively on the subject, obtained a notable quantity of putrid matter from the unwholesome air, and came to the conclusion that it penetrated by the pores of the skin, rather than by the lungs. Brocchi ascribes the immunity of the sheep and cattle, which pasture night and day in the Campagna, to the protection afforded them by their wool. These remarks deserve the serious attention of observers, particularly as, according to Patissier, similar means have been found effectual in preserving the health of labourers, digging and excavating drains and canals in marshy grounds, where, previous to the employment of these precautions, the mortality from fever was very considerable.

"It is a general law, that every organ acts with increased energy when excited by its own stimulus; and the application of this law to the different functions of the skin may help to remove some of our difficulties. The skin exhales most in a warm dry atmosphere, because the latter dissolves and carries off the secretion as fast as it is produced; and the same condition is unfavorable to absorption, because nothing is present upon which the absorbents of the skin can act. In a moist atmosphere, on the other hand, the absorbents meet with their appropriate stimulus, and act powerfully; while exhalation is greatly diminished, because the air can no longer carry off the perspiration so freely. Apparently from this extensive absorption, we find the inhabitants of marshy and humid districts remarkable for the predominance of the lymphatic system, as has long been remarked of the Dutch; and, as malaria prevails chiefly in situations and seasons in which the air is loaded with moisture, and is most energetic at periods when absorption is most active, and moisture is at its maximum, the probability of its being received into the system chiefly by cutaneous absorption is greatly increased, and the propriety of endeavouring to protect ourselves from its influence by warm woollen clothing becomes more striking. In the army and navy, accordingly, where practical experience is most followed, the utmost attention is now paid to enforcing the use of flannel and sufficient clothing, as a protection against fever, dysentery, and other diseases, particularly in unhealthy climates. In the prevention of cholera, flannel was decidedly useful.

"From the above exposition of the laws of absorption, and from the facts referred to at page 64, may it not be feasibly inferred, that the efficacy of great heat in preventing contagion from the plague is partly owing to the consequent dryness of the atmosphere no longer presenting the requisite stimulus to the absorbents, but, on the contrary, powerfully exciting the action of the exhalants? Damp directly stimulates the absorbents, and hence may arise its hurtfulness as a vehicle. The system, too, it is well known, is peculiarly susceptible of infection when the stomach has been for some time empty, as before breakfast. May not this be accounted for by the then greater activity of absorption?" (P. 67.)

The chapter which follows the description of the skin, and which relates to its health, and the influence it exercises on the general system, is perhaps one of the most important in the book; neglect of clothing suited to our climate and to the different seasons being one of the most common of faults, and one of the most detrimental to the inhabitants of this island. This is particularly exemplified in the dress of infants and young persons, and often, indeed, in people of every age up to an advanced period of life. As regards little girls and young women, the neglect of such dress as affords sufficient protection from cold and damp is notoriously common, and the consequences are very serious. Vanity or fashion in the higher ranks, poverty in the lower, and ignorance in both, tend to produce this. The infants of the poor are clothed too little, and exposed to the air too much; whilst the infants of the higher classes are clothed too much, and exposed to the air too little; and the result is, as regards London, that between one fourth and one fifth of all the infants baptized die before they reach the age of two years. The foolish error of hardening children, as it was termed, by exposing them to cold and wet, and by plunging them in cold water even in the winter season, is happily almost obsolete. It was sanctioned by no less a man than Locke, in his treatise on Education, wherein he recommends that boys should wear shoes with holes in them, to allow free ingress and egress to water; the philosopher forgetting that, in such cases, any shoes at all must be considered a superfluity. Dr. Combe alludes to the instructive experiments of Dr. Milne Edwards, shewing, that "the power of producing heat in warm-blooded animals is at its minimum at birth, and increases successively to adult age," and that young animals, so far from being warmer and more capable of resisting cold than older, are actually colder and lose heat more quickly. The practice, already spoken of as enforced by the laws of France, of taking newly-born children to the mayor's office for registration, is perhaps the chief cause of the great mortality of young children in that country. In England the children who are old enough to run about are those who suffer most from injudicious clothing, the upper part of the person being often entirely uncovered. As boys grow older they are protected by warmer clothing, but girls continue to have the neck, and at least half of the chest, quite exposed except when walking out, and even then not adequately defended from cold winds. Very often their clothing is altogether scanty; and bowel complaints, frequent coughs, and enlarged cervical glands, are the common consequences. It is remarked in Dr. Beddoes's tract on consumption, that although the Dutch inhabit a damp climate, and inundate their houses with water for the sake of cleanliness, and have very imperfect floors dividing the upper rooms from the lower, they seldom suffer from colds; and he ascribes this to the warmth of their habitual clothing. If so, the Dutch women may well bear a little ridicule of their rotund figures, and the men are wise to invest themselves, as they do, in almost as many waistcoats as the gravedigger in Hamlet puts off upon our stage, before he begins to dig. Too much clothing may indeed be worn, as well as too little; but if we see people shivering through a winter's day when taking exercise, the direct inference seems to be that they are not sufficiently clothed. Those who can take little exercise generally require warmer clothing than very active persons can bear without oppression.

Of late years we have heard of several instances in which persons long habituated to wearing flannel have been ordered to leave it off, as if it were a most hurtful custom; and of their having done so with impunity. This is one of the ingenious recommendations by which the practitioners of watering-places study to surprise and mystify the pampered invalids who crowd to such places of resort. The patient is generally ordered to leave off his flannel, "for it is killing him:" he is to use the shower-bath of saline water, to walk or ride many miles a day, to eat mutton-chops, highly seasoned, three or four times a day, and to drink sherry as often. Bread alone is to be taken with the meat, or perhaps rice; no vegetables, "they are poison." An amusing book might be written, and we trust that some day one will be written, concerning the practices prevalent in and peculiar to every place which is entitled a spa; places the haunt of many who have no ailment but of the mind and heart, idleness and selfishness; both of which find relief in those communities of sudden growth, in which no man cares for his neighbour, or for the poor; in which most men may escape the trouble of every public and private duty; and in which the hotel-keepers, the trades-people, and above all, we blush to say, too many of the medical men, devote all their energies to the delusion of human folly and the gratification of human weakness.

But for plain honest men who practise among rational people, among residents, whom the pampering and stimulating of a few months cannot dispose of, because they cannot be *sent away* cured, but must stay and relapse within view, we should think the judicious rules laid down by Dr. Combe respecting flannel would be more useful. He justly represents that, being a bad conductor of heat, it prevents that of the body from being too suddenly dissipated, and protects it also from sudden external vicissitudes of heat and cold; whilst its texture gently stimulates the cutaneous vessels and nerves, and readily absorbs the cutaneous exhalations. He allows, at the same time, that to some persons of delicate constitution, and in hot climates, it is hurtful, by irritating the skin and exciting too much perspiration; in which cases fleecy hosiery, if the object is to avoid irritation, or cotton, if the perspiration be excessive, should be substituted for it. Correct views on this point are sometimes of far too much consequence to admit of being trifled with; as where an order to wear or not to wear flannel may affect the health of a fleet or an army.

> "The advantages of flannel as a preservative from disease in warm as well as in cold climates, are now so well understood, that in the army and navy its use is urgently, and with great propriety, insisted on. Sir George Ballingall, in his valuable 'Lectures on Military Surgery,' (p. 92,) has some very judicious remarks on the influence of warm clothing in preserving the health of soldiers; and after adducing the testimony of Sir James Macgrigor to show that, in the Peninsula, the best-clothed regiments were generally the most healthy, Sir George adds, that when in India, he had himself a striking proof of the utility of flannel in checking the progress of a most aggravated form of dysentery, in the second battalion of the Royals. Captain Murray, also, late of H. M. S. *Valorous*, told me that he was so strongly impressed, from former experience, with a sense of the efficacy of the protection afforded by the constant use of flannel next the skin, that when, on his arrival in England, in December 1823, after two years' service amid the icebergs on the coast of Labrador, the ship was ordered to sail immediately for the West Indies, he ordered the pnrser to draw two extra flannel shirts and pairs of drawers for each man, and instituted a regular daily inspection to see that they were worn. These precautions were followed by

the happiest results: he proceeded to his station, with a crew of 150 men; visited almost every island in the West Indies, and many of the ports in the Gulf of Mexico; and, notwithstanding the sudden transition from extreme climates, returned to England without the loss of a single man, or having any sick on board on his arrival. It would be going too far to ascribe this excellent state of health solely to the use of flannel; but there can be little doubt that the latter was an important element in Captain Murray's success." (P. 87.)

Dr. Combe observes that, in a variable climate like ours, it is hurtful to delay putting on flannel until the winter has fairly set in: its protection is most wanted in the sudden changes from heat to cold which characterize the autumn. It may be added to this remark, that the unwise haste with which many individuals throw off their winter garments in the first warm days of spring is one of the most prolific sources of disease in that insalubrious season. The only safe rule is, that the winter clothing should be worn until it becomes oppressive, which it will not often be before the middle of March, and which it sometimes does not become before the first week of May. Then the sudden heat oppresses the feeble and delicate; some of whom it affects with fever, and all with extreme lassitude, whilst the phthisical, who have struggled through the winter, are swept away with a rapidity which justifies the ancient prejudice existing in England, among the poor, against a warm month of May. In giving directions concerning clothing, these circumstances, and individual peculiarities, should always be taken into consideration.

The families into which Dr. Combe's book finds its way will, we hope, all adopt his advice respecting the proper airing of bed-rooms and bed-clothes. They are generally made up with as much haste as if the general air was infectious. In all weather except damp or very cold weather, the custom of Italy, spoken of by Dr. Combe, might be advantageously adopted; the bed-clothes should be thrown over chairs, the mattresses shaken up, and the windows thrown open for the greater part of the day. In the rooms in which children sleep these measures are still more desirable. He must be eloquent, however, above most physicians, who can persuade mammas to make so great a revolution as to send out their children to walk at the hour when the beds are to be made, and to let the beds be aired well in their absence. The very nurse-maids protest against dressing themselves to walk out at ten o'clock; and the poor children are made to yield to customs hurtful on whichever side they are viewed. The beds are covered up in the coolness of the morning, and the children are taken out in the heat of the day. The closeness of bedrooms and the unventilated bedding are, we doubt not, often the causes of tormenting watchfulness; and of chronic debility in those who repair the broken slumbers of the night by hours taken from the morning. People forget that half of their time is passed in the bed-room; half the time at least of many, and one-third of the time of all; and that to breathe impure air all that time is likely to be injurious. The large size of the rooms or houses of the comfortable classes, combined with good food and clothing, counteracts the evils that would otherwise arise from these causes. Among the poor, who live in crowded rooms, and are ill-fed, the want of ventilation is well known to introduce every form of pestilence.

The salutary influence of the light of the sun is very properly made the subject of observation by Dr. Combe. Like all other influences of this class, it is especially important as regards children. In addition to the instances mentioned by Dr. Combe, it is to be remembered that Dr. Milne Edwards has proved that the privation of light prevents or retards the remarkable transformations undergone by tadpoles; and it is no violent inference that the growth and healthy development of children may be influenced by a cause acting so generally and so powerfully. The size, airiness, and lightness of nurseries is not always sufficiently attended to, even in large houses: the children are immured in cheerless rooms, looking on dark shrubberies, or on the back-yards and chimneys of a town. The poor have no choice of rooms, and sometimes inhabit courts into which the light of the sun can hardly penetrate, and where disease is ever to be found among the squalid children who are not strong enough to run from home.

There are few countries in which the enjoyment of a bath is so difficult to be procured as in England. It would be well if those who are to possess local authority under the new Act of Parliament would read Dr. Combe's excellent remarks on this subject, and would, in each borough in the kingdom, institute warm and cold baths. Nothing would so much conduce to the comfort as well as cleanliness of the workmen, and to the health of all, as the frequent opportunity of bathing in warm or cold water, at a trifling expense. In every school, at least, there should be baths, not only for habitual use, but because, in the maladies of young persons, baths are so often valuable as remedial means, and yet so often pretermitted, because to order a bath is to trouble and disturb the tranquillity of the whole house. The use of the vapour-bath, also, is most beneficial in many constitutions, imparting a power of resisting cold to many who were previously subject to frequent catarrh, and sometimes dissipating an incipient attack of cold or rheumatism, or any other effect of checked perspiration. On all these points Dr. Combe's directions are ample and well considered; and they are concluded with some observations, written with his usual good sense.

> " I notice these facts to show that attention to the health of the skin is really influential in preserving the tone of the nervous system, and in contributing to mental and bodily comfort, and not for the purpose of inducing persons in bad health to have recourse to the bath of their own accord; which they ought never to do, as they may chance to suffer from

using it unseasonably. No rules of universal application can be laid down, and this is not the place for a professional disquisition.

"If the bath cannot be had at all places, soap and water may be obtained everywhere, and leave no apology for neglecting the skin; or, as already mentioned, if the constitution be delicate, water and vinegar, or water and salt, used daily, form an excellent and safe means of cleansing and gently stimulating the skin: to the invalid they are highly beneficial, when the nature of the indisposition does not render them improper. A rough and rather coarse towel is a very useful auxiliary in such ablutions. Few of those who have steadiness enough to keep up the action of the skin by the above means, and to avoid strong exciting causes, will ever suffer from cold, sore-throats, or similar complaints; while, as a means of restoring health, they are often incalculably serviceable. If one-tenth of the persevering attention and labour bestowed to so much purpose in rubbing down and currying the skins of horses, were bestowed by the human race in keeping themselves in good condition, and a little attention were paid to diet and clothing, colds, nervous diseases, and stomach complaints, would cease to form so large an item in the catalogue of human miseries. Man studies the nature of other animals, and adapts his conduct to their constitution: himself alone he continues ignorant of, and neglects. He considers himself as a being of a superior order, and not subject to the laws of organization which regulate the functions of the inferior animals; but this conclusion is the result of ignorance and pride, and not a just inference from the premises on which it is ostensibly founded." (P. 101.)

With this most excellent advice we must conclude our quotations from this section of Dr. Combe's work, the whole of which will repay the medical reader who peruses it; whilst it is full of good advice for the public. The value of such advice will be estimated by those who know how often a dry harsh state of the skin gives warning of some unnoticed derangement in the health of a child; how often depression of mind is associated in adults with a peculiar state of the surface; and how important attention to the functions of the skin is in the prophylactic, and we may add in the curative, treatment of phthisis pulmonalis.

The admirable chapters on the Muscular System, and on the Effects of, and Rules for, Muscular Exercise, we must pass over without comment; although we hope every parent, and every person concerned in the education of youth, will read them with attention. The parts of the work relating to the Bones and to the Lungs, also, we can only mention with general commendation: the latter, as may be supposed, is full of interest, as it includes the subjects of good or bad, or infected, air,—the effect of different occupations, situations, and arrangements,—and considerations relating to the ventilation of public halls, churches, schools, and houses.

The chapter on the Nervous System and Mental Faculties, and the one which follows it, entitled Rules for Mental Exercise, demand more particular notice, relating as they do to circumstances not unfrequently overlooked by the practitioner, and yet of vital consequence to his patients.

The name of Combe is so associated with the exposition of the doctrines of phrenology, that it must have been difficult for the author, in his brief but expressive account of the brain and its functions, to avoid, as he very judiciously has done, any allusion to the science, excepting those first principles of it which rest on the belief that the brain is the organ of mind, and to the fact that a majority of physiologists consider the anterior lobes as the seat of the intellectual faculties; a belief which the large experience of the reflecting and sagacious Cuvier supported; comparative anatomy having, according to his own statement in the Report to the Institute on the experiments of M. Flourens, constantly offered a confirmation of it, in the proportion of the volume of these lobes to the degree of intelligence of animals. The vague popular notion that the intelligence was something not dependent, even as regarded its development and manifestation, on a material organ, the idea of such dependence being very erroneously considered as a mark of *materialism*, has been an obstacle to the reception of a kind of knowledge which would have shewn the great imprudence of overtasking the brain of young persons, particularly of those exhibiting much intellectual alacrity; of calling upon the young, and those in whom the brain was imperfectly developed, for the performance of intellectual functions, which were with as little reason to be expected as a nice sense of colours in the blind, or of sound in the deaf. Even in the present day, when all profess to see the impropriety of such forcing of the juvenile intellect, we not unfrequently observe lively children distressed and fretted by the vanity of their parents; called upon to read when they are indisposed to read, and to recite when they are disposed to sleep. Dr. Combe, with much justice, condemns the unnatural system by which children are for months consigned to the cheerless labours of school, and then for six weeks permitted to run wild in perfect mental idleness. As is the case with other organs, alternate exercise and rest are required by the brain, but not alternations of extremes. The true ends of education have, indeed, been too much lost sight of, as if the only object to be kept in view had been a certain amount of acquisition in a given time; an error much opposed to a diffusion of the love of knowledge, and the effects of which are exhibited in the immediate abandonment by young men and young women of all intellectual habits, when they are emancipated from school for life. It is, however, but just to say, that, in most schools of modern establishment, more care is taken to ensure health of body and of mind; the continuous application is shortened, the hours of relaxation are more frequent; and we are convinced, from memory and observation, that young people are both healthier and happier under this more enlightened, or, we should say, more natural system, than of old. Under the old *régime*, six or eight hours of each day were passed in bodily inactivity, in a vitiated atmosphere; and this for the sake of going through certain lessons, which would have been much better learned in one-third of the time: the consequences were a depressed and vagrant mind, and very often a feeble frame, unable to resist atmospherical influences; consequences which were only counteracted by the natural propensity of young people to very active exercises when the hour of exercise presented itself; and only thus counteracted in boys, who were not debarred, as too often happened in the case of girls, from the use of their voluntary muscles and organs of voice.

If examples did not daily convince us of the fact, one would not think it possible that intellectual beings would ever be insensible to the good effect of judicious mental exercise upon the body, and to the folly in some cases, and cruelty in others, of placing themselves in a condition, or consigning other individuals to a condition, in which the mind is deprived, for a length of time, or entirely, of proper mental stimuli.

We honour Dr. Combe for his humane mention of the dismal fate of governesses in great families. A young and accomplished female, perhaps the daughter of a clergyman, and once the child of a home of affection, where every liberal accomplishment was valued, goes down to some remote province, or enters some vast mansion in the metropolis, far from every friend, to take the charge of the children of a fashionable mother. She is never admitted to the table of the great man, and, if allowed to beguile some listless hours for the lady of the house, she is taught to fly when the lord of the mansion returns, or to make an ignominious retreat before fashionable visiters. Her apartment is up the back stairs, close to the nursery, where, when her daily round of duties is performed, she has no resource but reading; no society, no companion, no amusements. Her meals are solitary, and the very servants, if insolent, despise, if good-natured, pity, her forlorn condition. Better far, indeed, it would be for her, if she had been brought up with less care, and could partake of the ungenteel mirth of the servants' hall. As it is, the mind preys upon itself, the imagination reigns uncontrolled, and the result is, that few young women ever fill such a situation for six months without becoming invalids. Indigestion, hypochondriasis, nervousness, the loss of colour, and of strength, and of cheerfulness, (all perhaps long unheeded,) mark these unhappy victims. Some of the most pitiable cases of human suffering which we have ever witnessed have occurred in young persons of this class, and which wholly owed their origin to too much solitude, bodily inactivity, and the mental apathy or restlessness produced by a want of cheerful conversation and the ordinary resources of social intercourse.

The retired man of business seems less an object of commiseration; but his sufferings are soon almost equally severe: his mind suffers from want of exercise; he grows apathetic, and breaks up rapidly, amidst the wonder of his neighbours. Thus, the man oppressed with business flies for relief to indolence, and finds his old evils only exchanged for other evils. True wisdom should be exercised in so proportioning exercise and rest as that one may relieve the other; and the powers of the mind, exercised without being too much excited or too much fatigued, may then last as long as the powers of the body. We have occasionally heard the testimony of soldiers who have been subjected to solitary confinement, and, although they were persons of small habitual intellectual activity, they always spoke of it with extreme repugnance, looking upon it as even worse than the degrading punishment of flogging. The effects of what is called the silent system of treatment in the American prisons cannot but be attended with much mental torture, and even disease. By the healthful exercise of the mind induced by the necessity of exertion, the advantages of fortune are compensated for in all the middle and lower ranks of society: when freed from this necessity, indolence brings in its train irritability, caprice, nervous disorders, untranquil digestion, imperfect sleep, and sometimes mental derangement. In the large prisons of London, in which the wretched inmates enjoy no relaxations but such as are vicious, we have been struck with the rapid change effected upon them: the countenance soon loses not its vivacity only, but its intellectual expression, and eccentricities appear which border on madness. The whole of this subject, which Dr. Combe had before very ably treated of in his work on Mental Derangement, is introduced in the most interesting manner in his present publication; and his remarks will, we trust, meet the eye, and awaken the mind, of many a listless reader, male and female, and, by explaining to them the cause of the mental languor and discontent which overpowers them, rouse them to the exertions by which such demons are best resisted.

But, in this age of exertion and ambition, there are innumerable victims of *too great* an exertion and excitement of the brain. Every man's observation must have shewn him such; and they abound in our own profession. The most moving persuasions are less effectual in checking such mental excess than facts of the following striking kind. After illustrating the effects of irritation of the brain by what takes place in the eye when over-exercised, Dr. Combe adds:

> "Precisely analogous phenomena occur, when, from intense mental excitement, the brain is kept long in a state of excessive activity. The only difference is, that we can always see what happens in the eye, but rarely what takes place in the brain. Occasionally, however, cases of fracture of the skull occur, in which, from part of the bone being removed, we can see the quickened circulation in the vessels of the brain, as easily as those in the eye. Sir Astley Cooper had a young gentleman brought to him, who had lost a portion of his skull just above the eyebrow. 'On examining the head,' says Sir Astley, 'I distinctly saw the pulsation of

the brain was regular and slow; but at this time he was agitated by some opposition to his wishes, and directly *the blood was sent with increased force to the brain, the pulsations became frequent and violent: if, therefore,*' continued Sir Astley, '*you omit to keep the mind free from agitation, your other means will be unavailing*" in the treatment of injuries of the brain. A still more remarkable case is mentioned by Dr. Caldwell, as having occurred to Dr. Pierquin, in the hospital of Montpelier, in 1821. 'The subject of it was a female, at the age of twenty-six, who had lost a large portion of her scalp, skull-bone, and dura mater, in a neglected state of lues venerea. A corresponding portion of her brain was consequently bare, and subject to inspection. When she was in a *dreamless sleep*, her brain was *motionless*, and *lay within* the cranium. When her sleep was *imperfect*, and she was agitated by dreams, her brain *moved* and *protruded without* the cranium, forming *cerebral hernia*. In *vivid* dreams, reported as such by herself, the protrusion was considerable; and when she was perfectly awake, especially if engaged in active thought or sprightly conversation, it was still greater." This protrusion arose, of course, from the greater quantity of blood sent to the brain, during its activity, than when it was quiet; and, if the case be accurately reported by Dr. Pierquin, it is certainly one of the most interesting on record.

"We are conscious, indeed, of a flow of blood to the head when we think intently, or are roused by passion; and the distention of the small vessels of the brain is not the less real or influential on account of its being hidden from our view. Too often it reveals itself by its effects when least expected, and leaves traces after death which are but too legible. How many public men, like Whitbread, Romilly, Castlereagh, and Canning, urged on by ambition or natural eagerness of mind, have been suddenly arrested in their career, by the inordinate action of the brain induced by incessant toil! and how many more have had their mental power for ever impaired by similar excess! When tasked beyond its strength, the eye becomes insensible to light, and no longer conveys any impressions to the mind. In like manner, the brain, when much exhausted, becomes incapable of thought, and consciousness is almost lost in a feeling of utter confusion." (P. 287.)

These are truths well worth remembering, and they are plainly and well expressed. Medical men might sometimes save valuable lives by attention to these circumstances; and by representing, supported by allusions to facts of this kind, brought before persons regardless of all common cautions, that by too great anxiety to do much, they were actually defeating their own ends; overleaping themselves, to "fall on t'other side."

In children, also, there is not only abundance of proof that too much exercise of the mind aggravates the disposition to some diseases of the brain, but much reason to think that such over-exertion creates such a disposition in a healthy brain, and, by enfeebling the whole body, occasionally brings on the whole train of affections called scrofulous. Dr. Combe refers to a sensible work by Dr. Brigham, published at Boston, in America, in 1833, in which it is stated that, in the passion for making prodigies of the infant citizens of the States, their parents are supplied with "INFANT Manuals of Botany, Geometry, and Astronomy;" and he relates some striking instances of the destructive effects of this mental forcing. We do not consider these practices, and their results, as constituting any arguments against infant schools, which, when well conducted, and chiefly with a view of disciplining the tempers of the little scholars, and keeping them from quarrels and mischief, are among the most valuable of modern institutions. If much is attempted beyond this, the result is generally disastrous: the child grows up, remarkable for its acquirement and for its extreme sensibility; the frame is delicate or sickly, and, when at length he is expected to come forth and challenge the public regards, he fades away before the eyes of his distracted parents, and sinks into the grave.

Among the students of colleges where prizes are to be contested for, or honours gained, an erroneous kind of reasoning prevails, that, if the faculties can accomplish a certain quantity of work in eight hours, they can accomplish double the quantity in sixteen. The late Dr. Gregory, of Edinburgh, whom no one could suspect of being the apologist of idleness, used in his lectures to demonstrate the fallacy of this reasoning, and the dangers of it; which, after all, it was observable that many of his hearers incurred. As a dissuasive from too much night-reading, he used to mention that being himself anxious when a student to do a great deal in a short time, he acquired the habit of sitting up a great part of the night; and that, as he was accustomed to mark the passages he read, he was surprised to find that in the morning he was often unable to recollect reading the passages which he had so marked. A better illustration could not have been given of the fruitlessness of such night-work, than its effects on the mind of so vigorous and abstemious a person. The delusive notion that the mind can be most advantageously employed at night is disproved by many instances, and by those of two persons alluded to by Dr. Combe, whose intellectual fame might indeed satisfy the largest ambition. It was Sir Walter Scott's practice to write in the morning; and he gave the rest of the day to business or amusements. Mr. Southey, one of the most industrious and learned of living writers, is, we believe, always in his study at an early hour.

The impression made upon us towards the end of the college session in Edinburgh, by the unhealthy aspect of our fellow-students, has not yet left our memory; and further experience has established these results of over-study by many lamentable instances: debility, palpitation of the heart, dyspepsia, fever, consumption, and insanity, have, we think, been clearly observed by us to arise, and some of them frequently, from intemperate application to study, in students of our own profession. Every other profession could furnish parallel examples. That of Sir Humphrey

Davy is introduced by Dr. Combe: a dangerous fever, and long continued debility both of body and mind having been incurred by that illustrious philosopher when lecturing at the Royal Institution, in consequence of intense mental exertion. The biography of many an accomplished youth, snatched away by death when he seemed advancing to fame, attests the existence of similar imprudences followed by similar consequences at our great English universities. And all these evils arise from forgetting, apparently, that the mind depends for its manifestation on the brain, a bodily organ, which cannot be kept in health without some rest, and without general exercise of the body, good air, proper food, and diversified employment. To use language quoted by Dr. Combe from the American Annals of Education, and there applied to the case of a young clergyman, the duties of the mind and heart are done, and faithfully, in many of these instances, but "three hundred and seventy-five muscles, organs of motion, have been robbed of their appropriate action for nine or ten years, and now they have become, alike with the rest of the frame, the prey of near one hundred and fifty diseased and irritable nerves."

We have often thought it would be interesting to collect the examples of men of intellectual habits whose lives have terminated by paralysis. Perhaps in some cases this is to them only a form of natural death,—death beginning at the brain. But in countless cases it arises from too much mental exertion or anxiety, conjoined with sedentary habits, and too great indulgence at table. Yet as age advances, every man should moderate his expectations with respect to the productions of the brain; and it is no unworthy study to preserve its power co-equal with the powers by which mere existence is prolonged. How wise as well as beautiful was the advice of Cicero, who, insisting strenuously for the continuance of mind in the oldest men, if industry remained, yet adds, "habenda ratio valetudinis; utendum exercitationibus modicis; tantum cibi et potionis adhibendum, ut reficiantur vires, non opprimantur: nec vero corpori solum subveniendum est, sed menti, atque adeo multo magis, nam hæc quoque, nisi tanquam lumini oleum instilles, exstinguitur senectute!"

Dr. Combe's observations on mental exercise are characterized by his usual good sense and copiousness of illustration: and indeed, of his whole work, we are justified in saying that it is one which practitioners may with great propriety recommend to their educated patients; who, in proportion to the sound knowledge they are persuaded to acquire, will always be found more obedient to judicious medical advisers, less capricious, and more likely to do credit to those whom they consult.

The works of Dr. Dunglison and Dr. Kilgour are rather addressed to medical readers than to the public, the first being intended as a text-book for lectures on Hygiène in the University of Maryland, and the second published in the form of lectures as part of a course on Therapeutics. The lectures of Dr. Kilgour chiefly relate to private hygiène; Dr. Dunglison's book comprehends much that relates to hygiène as respects communities. Dr. Kilgour's style is however so lively and colloquial as irresistibly to recommend it to the general reader; and the variety of matters in Dr. Dunglison's, interesting to official persons as well as to individuals, give it a title to careful perusal much beyond the limits of the medical profession.

To Dr. Dunglison's text-book is prefixed a short physiological proem, in which, after defining the object of Hygiène to be to enquire into the circumstances which produce disease, or into the influence of physical and moral agents on healthy man, and thence to deduce the best means for preserving health, and for developing all the healthful energy of which the functions are capable, he proceeds to notice several points of general physiology, necessary for the perfect comprehension of the subject. The topics then treated of are Atmosphere and Locality, Food, or the Materia Alimentaria, Clothing, Bathing, Exercise, Sleep, Corporeal and Mental Occupations; and there is a supplementary chapter containing many facts touching Malaria and Temperature. In all these chapters it is evident that the author is a physician of extensive acquirements, literary and professional, and possessed of that good sense which is so essential to the proper consideration of some of the branches of knowledge which have engaged his attention. This is very conspicuous in the large portion of his book devoted to the consideration of Diet; and his opportunities of seeing the effects of different modes of life in both the New and the Old World have enabled him to correct some of the hasty conclusions of the European writers. In the chapter on Corporeal and Mental Occupations he controverts an opinion which has during late years found some supporters, that the pursuit of letters is unfavorable to longevity; and shews the error of attributing the deaths of many of the poets who died early, to the exercise of their imagination, when there is such great reason to ascribe their premature decline to irregularities of life:—these irregularities, however, it should have been remembered, are much associated with the imaginative temperament. In an excellent treatise on Physical Education by Dr. Caldwell, an American physician, it is stated that of the fifty-six delegates who signed the Declaration of Independence, almost all of whom were men of well-regulated and active minds, two died from accidents; and the aggregate years of the remaining fifty-four were 3609, giving to each an average of sixty-six years and nine months. The average duration of life in twenty mathematicians, taken promiscuously, was seventy-five years. That of an equal number of poets was only fifty-seven. These facts, cited by Dr. Combe, furnish a useful lesson. The mind seems recreated and the body strengthened by diversified mental occupation, and, fortunately, this is exactly what every man's private and public duties impose upon him. To neglect either is to incur some kind of penalty.

The first portion of Dr. Dunglison's book, or that relating to Atmosphere and Locality, contains much to which the medical reader will refer with interest. In his first chapter he examines the influence of the density and temperature of the atmosphere on the human body, and adduces instances in proof of the effects of mere density having been much over-rated. He refers to the fact of the residents of the farm of Antisana in Quito suffering no inconvenience from its atmosphere, after a short time, although its elevation is 13,400 feet. Cassini maintained that no animal could exist at 15,640 feet; but the commissioners sent to measure the earth at the equator lived for a considerable time on the summit of Pichinca, 15,939 feet above the level of the sea; and whilst there, often saw the vulture soaring a thousand feet above them. The opinion rested on the presumption that at the height of 15,640 feet the atmosphere is one half rarer than at the level of the ocean, and "on the fact, that if the air be suddenly dilated one half under the receiver of the air-pump, an animal placed under it dies." Such, observes Dr. Dunglison, might be the effect if the density were suddenly diminished, but man seems endowed with a remarkable capability of resistance to such influences when gradually exerted, or even when as rapidly exerted as in the ascent of a balloon to more than 20,000 feet. The elevated regions of Asia afford examples of a mild climate at great heights above the sea, as on the crest of the Huketo pass, and on Zinchen, the first more than 15,000, the second more than 16,000 feet high. In these prodigiously elevated localities, the climate is pleasant, horses are numerous, kites and eagles fly about, and small birds and locusts abound. At 13,600 feet, were fields of barley and turnips; and a little lower, thyme, sage, juniper, sweetbriar, and gooseberries; and even vineyards and groves of apricots. At Nako, in the midst of the Himala range, 12,000 feet above the sea, the grain was yellow in August; and there was a broad sheet of water, surrounded by tall poplar, juniper, and willow trees. Yet, observes Dr. Dunglison, the latest French writers on hygiène copy from their predecessors, and state that at 12,790 feet (English) no trees are found, and that at 14,708 feet there is no trace of vegetation.

> "Even the sanitary depôts, for those suffering under the diseases of the lower and hotter parts of India, are situated, in some instances, higher than the point assigned by Londe as the limit to human salubrity. Dargeeling, in the Sikkim mountains, 330 miles from Calcutta, has been recommended as a sanitarium. Its height is about 7,218 feet above Calcutta, and its mean temperature is calculated to be 24° below that of Calcutta, and only two degrees above that of London. A convalescent retreat has also been provided at Simla, a station among the hills between the Suttledge and Jumna, near Sabhatto, and 7,500 feet above the level of the sea." (P. 44.

Dr. Dunglison subsequently enters on the examination of the effects of temperature, deducing from numerous facts the conclusion, that the temperature of the body may be lowered beyond what is natural to it, nearly twice as much as it can be raised, consistently with life. It appears, he observes, that independently of all other considerations, the elevated temperature of the torrid regions of the globe is positively detrimental to animal health; the constant evaporation by the cutaneous and pulmonary transpiration maintaining the absorbents of the intestines in a state of irregular erethism, and hence disposed to assume a morbid condition; in which way he would explain not only the frequent occurrence of diarrhœa, dysentery, and cholera, but the diseases of the liver which so universally are found to attend inflammation of the upper part of the intestinal canal in those climates. The method of enlarging the liver of geese for the famous Strasburg *pâtés* is by nailing the unfortunate birds to a plank by the web of the foot, near a large fire; abundance of food is given, and they are kept from drink. Such is the manner in which man continues to shew his superiority over the lower animals! In many of the unhealthy districts of India, dogs are said to be subject to the endemic diseases of the climate. Experiments on animals have proved that, when they are exposed to high temperature, they consume less oxygen during respiration: the extreme arterial vessels seem deprived of their usual energy, and the arterial blood flows on, little changed, into the veins; effects which are perhaps to be referred to a diminished energy of the brain and nervous system; many other effects of which are observable in those who have been long in hot climates. Such climates are especially unfavorable to those disposed to cerebral diseases: Dr. Dunglison says he has met with cases of hemiplegia in young men, between twenty and thirty years of age, developed by a short residence in India. In opposition to the opinion of M. Rostan, who is certainly prone to take up opinions very hastily, and who asserts that warm climates are beneficial to the scrofulous, Dr. Dunglison refers to the testimony of Sir Whitelaw Ainslie, who observes, that perhaps of all disorders, that to which the climate of India proves most *un*genial is scrofula: indeed, that experienced physician goes so far as to say that he never knew one individual in India, who was of such a constitution, and remained in tolerable health for ten months together. Soldiers of a scrofulous constitution become affected, he says, with "frightful and ravaging ulcers," and "are fit for nothing but lumbering up an hospital." Gout and rheumatism are less prevalent and less severe in hot climates, and consumption is rare.

Every one knows that the first effect of a moderately depressed temperature is agreeable and exciting: all the functions are increased, except that of cutaneous transpiration, the diminution of which is compensated for by an increase of the urinary secretion. When subjected to a temperature of between thirty and forty-five degrees of Fahrenheit, or lower, the diminished cutaneous exhalation and the depressed circulation lead to engorgement of the air-tubes, producing bronchitis, winter cough, &c. The fatal effects of a severe frost on old people was observed by Dr. Heberden; and Dr. Beddoes found that, among persons above sixty years of age, the greatest number of deaths took place in the coldest months, and the fewest in the middle of summer. But Dr. Dunglison remarks, that it is only the first part of this observation which accords with their experience in Virginia; excessive heat proving fatal to many elderly persons, by occasioning disorders of the lining membrane of the intestinal canal.

At a still lower temperature, the nervous system becomes torpid, and an intense desire for sleep succeeds. The well-known instance of Dr. Solander does not require to be quoted. Dr. Dunglison alludes to still more memorable examples during the retreat of the French army in Moscow, in 1812. In two of the nights of December, the thermometer was as low as twenty-seven and thirty-two degrees below zero of Fahrenheit; and in this extreme cold many of the horses died, and the soldiers, who were without furs and cloaks, were struck with stupor if they took the least rest; death being preceded by pallor of the countenance, a kind of idiocy, difficulty of articulation, defective vision, and sometimes a total loss of sense. Supported by their comrades, they would stagger on in this condition until they fell down dead.

In such instances as the last, the effects are plainly to be ascribed to cold alone, acting with an intensity which animal life could not resist. But there is an evident difficulty in separating the effect of mere temperature from those produced by combinations of certain degrees of heat with other causes, when speaking of the diseases peculiar to different climates. The hygrometric states of the atmosphere, for instance, always require to be taken into calculation. To the consideration of this subject, as well as of the atmospheric vicissitudes which so powerfully affect the frame, and the effects of electricity and light on the functions, Dr. Dunglison has devoted a section of his first chapter. The following extract comprehends the principal facts mentioned in relation to the influence of moisture.

"The barometric and thermometric influences of the air are exerted with more or less energy upon the animal system, according as its hygrometric condition is more or less considerable, that is, according as it is dry or damp. Dry air, for example, is heavier than moist, inasmuch as watery vapour is lighter than air in the proportion of .625 to 1,000. When the air, consequently, is largely charged with moisture, the mercury in the barometer falls; and, on the other hand, when it is dry, the mercury rises. We have seen, again, that the sensations of heat and cold, experienced from the air, are greater when the air is damp, owing to the presence of water between its particles adding to its conducting power; and, lastly, that as the dissolving power of the air augments in proportion to its dryness, and temperature; its action upon the fluids of the body must be less in a moist than in a dry atmosphere.

"It may be remarked, by the way, that a moist atmosphere is better adapted than a dry one to dissolve various animal, vegetable, or mineral substances, which are susceptible of volatilization. We have many instances to prove, that volatilizable substances are sooner converted into the gaseous state under such circumstances. Lime-burners are well aware, that limestone can be burnt, and reduced to the state of quicklime, much sooner in moist than in dry weather; and, in the latter case, they not unfrequently place a pan of water in the ash pit, the light vapour of which,—lighter, as we have seen, than atmospheric air,—assists in carrying off the carbonic acid gas, which is heavier. Camphor is found to volatilize with much greater celerity in damp situations, and every one has noticed the fragrance of a garden after a summer's shower. There are certain bodies, too, which require the presence of moisture for their escape;—thus, the odorous particles of argillaceous substances are quiescent until they are breathed upon, or, in other words, become moistened by the fluid from the lungs, or by moisture of some kind, after which the mineralogist readily recognizes their characteristic odour. Every one must have noticed how powerfully the stench of putrid ditches is conveyed to the olfactory organs in summer, previous to rain, when the air becomes charged with moisture, and how readily offensive substances are detected in a fog by the same sense.

"The agency of moisture is doubtless also concerned in the conveyance of various emanations from the soil, which produce endemic disease. It has long been noticed, that, whilst the inhabitants of a plain, on the level of a marshy land, have escaped diseases that are known to be produced by the emanations from such land, or by *malaria*,—as it has been termed by the Italians,—those dwelling on neighbouring elevations have suffered extensively. Observation would seem to have shewn, that this malaria is somewhat heavier than atmospheric air, but as watery vapour is incessantly exhaled from the surface of the earth under the influence of solar heat, and as this vapour possesses so little specific gravity, it takes up the heavier miasmata along with it, and, under favourable circumstances, they are deposited on the elevations.

"Similar remarks apply to the communication of the matter of contagion, which would appear to be modified in its activity, by the degree of moisture in the atmosphere, influencing its solubility and volatility; but on this topic our evidence is not quite as satisfactory. The same may be said of epidemic influences, of which our ignorance is unhappily so profound. It may be remarked, however, as some corroboration of this view, that the Harmattan, a wind which blows periodically from the interior of Africa towards the Atlantic ocean, and which is characterized by its extreme dryness, is asserted to put an end to all epidemic and contagious affections,—even to small pox; and it is said that, at such times, the disease is not easily communicable by art.

"We shall find hereafter, that humidity modifies the action of atmospheric electricity on the animal body, as well as the electrical condition of the body itself." (P. 66.)

Dr. Dunglison's remarks on the effects of atmospherical vicissitudes, and on the influence of electricity and light, contain useful information, conveyed in a very unpretending manner, but nothing which is not generally known to medical readers. In the next section, after detailing the consequences of confinement in vitiated air, he treats of the important subject of malaria, or of terrestrial emanations. Observing that the malignant cholera attacked several of the towns of America in the most virulent manner, whilst others, and some to all appearance similarly circumstanced, wholly escaped,—a course accordant with European experience,—he concludes that the complaint required a combination of atmospheric and local causes to induce it, or, in other words, that the causes were of an *endemico-epidemic* character. After noticing similar circumstances, equally inexplicable, respecting typhous fevers and intermittents, Dr. Dunglison dwells at some length on the causes which have been assigned for the terrestrial emanations which unquestionably take place from marshy and other districts; and the conclusions at which he arrives, in which he would himself allow that nothing is concluded, are expressed in the following summary:

"What then is this malaria—arising so frequently from marshy situations as to be called *marsh poison*, but emanating also, at times, from soils far distant from any marshy lands; affecting the whole of our country below tide-water, and more or less unknown in many of our mountain regions; occurring in certain localities in spite of every care, and not producible in others by any process with which we are acquainted? We have endeavoured to prove, that it is not caused, as far as we know, by any ordinary kind of decomposition; that it is not animal in its nature, nor vegetable, nor compounded of both, but that in marshy and stagnant situations it requires, that the bottom, previously submerged, should be exposed to the solar heat. Dr. Ferguson, indeed, considers that a highly advanced stage of the drying process is necessary for its production; and he adds that, in the present state of our knowledge, we can no more tell what that precise stage may be, or what that poison actually is, the development of which must be ever varying, according to circumstances of temperature, moisture, elevation, perflation, aspect, texture, and depth of soil, than we can define and describe those vapours that generate typhous fever, small-pox, and other diseases.

"Such is the negative opinion of Dr. Ferguson with regard to the origin of malaria. On the other hand, Julia ascribes it to a union of *animal and vegetable* putrefactions, but expresses his total ignorance of the nature of the emanation. Dr. Macculloch maintains that putrefaction, in the proper sense of the term, is not necessary, but that the stage or mode of *vegetable decomposition*, required for the production of the malaria, is different from that which generates a fetid gas. Others have supposed the miasm to be animalcular, and others, again, that it is produced by animalcular putrefaction. 'Dr. Caldwell, in his Prize Essay on Malaria, affirms it to arise from vegetable and animal matter, more especially the former, in a state of "*dissolution.*" "I say dissolution, not putrefaction, because there is good reason to doubt whether that process, in the technical meaning of the term, be necessary to the result. Bilious fever, in all its varieties of type and degree, often prevails in places, where no putrefaction is discoverable. But dissolution, by which I mean the decomposition of dead organic substances, and the reunion of their elements, producing new compounds, is present. *In no other way can the Malaria be formed!*' Lastly, Dr. James Johnson, in a recent work already cited, thinks we are pretty safe in concluding, that, 'generally speaking, it is the product of animal and vegetable decomposition by means of heat and moisture.' Yet, in another page, when speaking of *pellagra*—a singular cutaneous and nervous affection, endemic in the Lombardo—Venetian plains—he expressed himself in a manner, which would seem to shew that he by no means esteemed it 'safe' to deduce any such conclusion; for he wisely observes,—'The cause of this frightful endemic pellagra, has engaged the pens of many learned doctors. But it is just as inscrutable as the causes of hepatitis on the coast of Coromandel, elephantiasis in Malabar, beriberi in Ceylon, Barbadoes Leg in the Antilles, goître among the Alps, the plica in Poland, cretinism in the Vallais, or *malaria in the Campagna di Roma.* It is an emanation from the soil; but whether conveyed in the air we breathe, the food we eat, or the water we drink, is unknown. If this, or any of the endemics which I have mentioned, depended on the filth or dirty habits of the people, we ought to have similar complaints in Sion, or the Jews' Quarter in Rome, the narrow lanes of Naples, and the stinking alleys of all Italian towns and cities. But such is not the case. The Jews' Quarter in Rome is the dirtiest, and the healthiest spot in that famous city. The inhabitants of Fondi, Itri, and other wretched villages in the Neapolitan dominions are eaten up with dirt, starvation, and malaria; but no pellagra, no elephantiasis, no goître, no cretinism, is to be seen. The inevitable and the rational inference is, that each country, where peculiar or endemic maladies prevail, produces them, from some hidden source, which human knowledge has not yet been able to penetrate."

"Such inference, we would unhesitatingly say, is applicable to malaria as we have been considering it; and this is strikingly confirmed by the discrepancies in the opinions of the writers whom we have cited. Can we then, in the state of ignorance that envelopes us, fix positively, or even with any thing like probability, upon any cause, or combination of causes of any kind, likely to give origin to malarious emanation?

"It has been already asserted, that we are uninformed regarding the nature of the emanations from even the most unhealthy situations, where we *know*, from the results, that such emanations exist. They have utterly defied the art of the chemical analyst. They cannot consist of hydrogen, or of carburetted, or sulphuretted, or phosphuretted hydrogen, for no such adventitious gases have been detected by the chemist, which they could readily have been, if present; nor has there been found any additional quantity of carbonic acid gas, or of azote. The revival of the ancient theory of animalcules scarcely requires a comment. It sufficiently shews the obscurity, that environs the subject.

"Such is our ignorance of the nature and causes of the malaria, which emanates from marshy lands more especially—of that which gives rise to remittent and intermittent fevers. But, although unacquainted with it in these particulars, we do know some of the laws by which it is governed." (P. 117.)

Among these laws it seems to be ascertained that, by reason of its specific gravity, it is during the night in greatest concentration near the surface of the earth, so that the inhabitants of the lower stories of houses are most exposed to its agency. But, if a man build his house on a hill-top, thither also may malaria pursue him; for the buoyant aqueous vapour during the day carries up the heavier noxious exhalation. A high wall, or barricade, or an intervening wood, may be a protection against it; and, in several situations near the Pontine marshes, trees having been cut down or forests cleared, fevers and other affections, from which such places were free, have made their appearance. The occasional prevalence of malarious diseases upon heights in the vicinity of marshes seems explained by the raising of the heavier miasmata with the lighter vapours, as above mentioned. But, although in many cases there is no difficulty in supporting the accusation of insalubrity under which marshes must be said to lie in all parts of the world, the malaria is yet too insidious an enemy to be avoided by simple precautions taken against such convicted districts. It assails the loiterer in the loveliest portions of Italy; a country of which the late Dr. Macculloch strongly says, "its fragrant breezes are poison; the dews of its summer evenings are death." There are beautiful districts also in America, Dr. Dunglison informs us, —places where many years of immunity from fevers had given security to the inhabitants, but from which this invisible destroyer, the pestilence which walketh in darkness, has sometimes capriciously driven away the occupiers, and where, after a temporary desolation, it has again left the localities salubrious. And, as to the character of the soil most productive of these noxious influences, all seems yet to be discovered. "It *may*," says Dr. Dunglison, "require an admixture of argillaceous earth. It *may* require animal and vegetable remains. It *may* be a gaseous emanation. It *may*, as Foderé thinks, resemble the product of organic decomposition. All these are possibilities, but requiring substantiation, and in which the negative evidence preponderates largely over the positive." This is not very satisfactory; but Dr. Dunglison is likely to be a better teacher for being suspended in these philosophical doubts, than if he came forth in the character of a champion for any one of these probabilities, to the utter and scornful exclusion of all the rest.

Dr. Dunglison has not noticed Dr. Prout's remarkable observation respecting the slight increase in the weight of the atmosphere which preceded the appearance of cholera in London, in 1832; a fact which, in so hidden a subject, would seem to constitute at least one step to a better acquaintance with one of the worst as well as most mysterious of the enemies to human health.

Looking back upon the "old country," Dr. Dunglison seems to be a little sceptical as regards some of the results stated in the Population Returns respecting the rate of mortality among us: that, for instance, which sets forth the mean annual mortality of

England and Wales as being only 1 in 58; that of the Pays du Vaud, according to Dr. Hawkins, being 1 in 49; of Sweden and Holland, 1 in 48; of Russia, 1 in 41; of France, 1 in 40; of Austria, 1 in 38; of Prussia and Naples, 1 in 33 to 35; and of South America, 1 in 30. The same rate of mortality, he says, is assigned to the United States as that of France, namely, 1 in 40; but he adds, that there can be no authority for this, as the census taken every ten years throughout the United States is deficient in that kind of information. A writer in the American Almanac estimates the mortality in the United States as 1 in 50; yet Dr. Dunglison thinks that the climate in many of the mountain districts equals, if it does not exceed, the mean of England. America, however, is in bad odour with our English insurance offices. Dr. Dunglison was himself obliged to sacrifice a policy of insurance on going out to the university of Virginia, on account of its being required of him to double the premium. Another professor in the same university, wishing to effect an insurance at another office, was told that they must decline insuring the life of any resident of a country in which the rivers were frozen over in a single night! The rate of mortality, he adds, at Philadelphia, is less than that of any European city of which the medical statistics have been taken. We are sorry to perceive that an instance of exaggeration seems to have occurred in the Cyclopædia of Practical Medicine, in the article MALARIA AND MIASMA: its respectable author, Dr. Brown, must, without doubt, have been led into error when he wrote the passage alluded to, in which it is stated that, in the marshy districts of Egypt, Georgia, and Virginia, the extreme of life is forty; and that, at Petersburg in Virginia, (on the authority of Dr. Jackson,) a native and permanent inhabitant rarely reaches the age of *twenty-eight.*

On many points connected with medical statistics and climate, we might transfer from Dr. Dunglison's pages highly interesting observations and facts, and he generally exercises a very sound judgment where discordant opinions have existed among previous writers. The hygienic cautions scattered through his work are useful and judicious, and we do not know so complete a text-book of hygiène as that which he has prepared. We have already spoken in commendation of the dietetic portion of his work, and have only to add, that the chapters on Clothing, Bathing, and Exercise contain numerous particulars interesting to the medical practitioner and to the public. Every subject seems well considered; nothing is neglected, and nothing is pushed to extravagance.

The subjects comprised in Dr. KILGOUR's Lectures are the same, or nearly the same, as those treated of by Dr. Dunglison; but Dr. Kilgour's manner of considering them gives them almost the air of novelty. After a most spirited introduction, to which we shall yet have to refer, he proceeds to speak of the properties of the atmosphere, and of the means of correcting them; such as draining or irrigating the soil, cultivation, rearing and cutting down trees; and then offers much salutary advice to the inhabitants of towns and villages, concerning the preservation of individual health and the health of the community. There is, in the questions noticed in these short chapters, much that is of great consequence, not only to the placid burghers of our own secure towns, but to those who are driven by calamity, or allured by speculation, to new settlements, in which, if any where, a knowledge of the general causes of health and disease is the most valuable knowledge that men can possess, because without it the chances are very great that life will be speedily sacrificed. That the neighbourhood of marshes is more unwholesome than the banks of running rivers is, one would suppose, a truth pretty widely disseminated; but, when we observe the ill-selected site of new habitations in our own country, where every diversity of situation is offered to the choice, we can readily conceive how circumstances, otherwise apparently advantageous, render colonists careless of fixing on a proper ground on which to build. The cultivation of a country is known to improve the climate; the explanation perhaps being, as stated by Dr. Kilgour, that vegetable life is the conversion of certain gases, oxygen, hydrogen, and azote, and carbonic acid, into solid matter; which alteration of bodies from a rarer to a denser state is accompanied with the extrication of heat. There are few things more important to a settler than the rearing or cutting down of trees. Even in England this is far from sufficiently considered with reference to health. Trees, we have seen, may be useful as screens against malaria; they may also be prejudicial, by preventing a due access of air and sunshine. If too closely planted, so as to create a dense shade, in which a heap of leaves is accumulated and undergoing decomposition, the air becomes sensibly disagreeable and damp; and there is no doubt that in such a state it becomes noxious. Although the clearing and cultivation of a new country eventually improves its climate, it is too well known, and has been too dearly learned, that the first effect is very insalubrious. According to Dr. Kilgour's explanation, the miasma, confined before, and for ages, escapes in full force, "and for years after, as the rich soil is ploughed up, it steams forth the deadly air."

Dr. Kilgour makes many sensible remarks on the building of houses; on the situation of houses, the materials chosen for building, and the distribution and size of the apartments. In considering these arrangements, the thing least remembered, generally speaking, is the effect upon the health of those who are to inhabit the new building: it may be reflected upon a little in the choice of the situation, but is often quite overlooked in the arrangement of the interior. The observation of Dr. Kilgour is very just, that the physician has often to regret the confined bedroom in which his patient is placed; and this is sometimes the case in large houses, in which the younger people are consigned to small bedrooms, little better than closets, for ten hours out of every twenty-four.

Any one who walks out of the country into a well-built town at night, must be sensible of the superior warmth of the atmosphere into which he comes. The freer ventilation of a country house, and its isolated situation, are accompanied with the inconvenience of greater coldness, and sometimes of greater dampness. The chief inconvenience of towns is deficient ventilation, added to which, the streets are seldom kept so clear as they might be from decaying refuse matters. The inferior streets, even of towns reputed very clean, are generally damp, and often offensive; and the courts are almost always full of disgusting nuisances, which invite every disease that floats in the atmosphere. The state of the drainage is still very imperfect in many towns, and wherever such a state is most observable, we are quite convinced that our common fevers, in their worst form, are most prevalent. There are many country towns in England in which fever rarely appears, and in which, when it does occur, it is almost invariably in the cottages of the poor, and in ill-drained courts or rows of houses. There are many towns in which one or two cases of malignant cholera appeared in 1832, and exclusively in houses surrounded with nuisances. At this very time, the English cholera, dysentery, and the measles, prevail in several situations, not exclusively among the poor, but much more among them than in the more comfortable classes; and both the measles and dysentery have been in several instances fatal, still chiefly, and for a time entirely among the poor. The state of some of the cottages let to the poor in many courts and alleys of all towns is such as would interdict, under a good police of health, their being let at all; and such houses and neighbourhoods, Dr. Kilgour truly observes, are much more detrimental to the community than the smoke of a manufactory. The state of the parish-church is sometimes, in our opinion, well worthy of more attention. Its want of thorough ventilation, the closed windows, the dark damp corners, the neglected floors and foundations, added to the extraordinary custom of burying dead bodies in the aisles or under the pews, renders the atmosphere almost insupportable to delicate persons; producing faintness, tremors, and nervousness; and, we have often suspected, even more serious consequences. As regards the police of towns, we quite agree with Dr. Kilgour in wishing it extended to regulating the width of streets, and, if courts must be, of courts.

> "We have now no walled towns, nor need of them. All streets, therefore, should be of a certain specified width. No dwelling houses should be allowed to be built in courts or alleys. It ought to be compulsory on persons opening new streets to have them running in a direct line. Every house ought to have as much vacant ground behind it as the breadth of the street before it. The houses ought to be all of one height, and built in one line. All pools and stagnant waters ought to be

contracted, drained, and covered, at the expense of the proprietors. They are injurious in themselves and a receptacle for every species of filth. As the dwelling houses of the poor may become as much the source of disease as stagnant water, or filth on the streets; and as they must always be the nests in which disease, if not begotten, is nurtured, fed, and cherished, until it has acquired its fullest force and vigour, the proprietors should be compelled to keep them wind and water-tight, and to whitewash the walls twice a year; and the public should be taxed for the cleansing and purifying these houses. It is compulsory on us to feed and clothe the poor, for their sakes. It ought to be no less compulsory on us to keep them clean, and free from all the causes of disease, for our own sakes." (P. 66.)

Many of these suggestions might be acted upon with advantage, although some would be regarded as too arbitrary for this country. There are other regulations which should be enforced for the general benefit, such as the removal of dung and manure before the middle of the day; the conveyance of water by spouting from the roofs of houses; the removal of large signs hung across and obstructing the air in narrow streets; the removal of cattle markets out of the streets; and other obvious nuisances. The new corporations will possess ample powers to do this kind of good, and it will be the fault of medical practitioners if such representations are not made to the mayor, aldermen, and citizens, or councillors, or commonalty, or burgesses, as the case may be, as will bring about all these most desirable improvements. Whether it will be found practicable to establish public walks, play-grounds, baths, and places of healthy recreation and amusement in the open air, as contemplated by Mr. Buckingham in his Bill for these purposes, we can hardly take upon us to say; but we believe that the habits of the people, which present the principal obstacles to carrying such a bill into effect, might be so improved as to realize all the benevolent intentions of the honourable mover.

Certain peculiarities of style which pervade Dr. Kilgour's lectures might lead those looking cursorily over them to deem them trifling in their character, and intended as much to amuse as to instruct. We do him but justice, however, in stating that he appears to have exercised a sound understanding upon all the subjects upon which he has exercised his pen and his humour. To take examples from each of his chapters would be but again to carry the reader over ground already traversed; although throughout the journey he would find Dr. Kilgour a very lively companion. His defence of flannel, a subject already spoken of in this article, is admirable; and his dissertation on dress is a sort of skirmish with the follies of men, women, and philosophers, all of whom he chastises with little scruple. We turned to the chapter on Exercise, expecting to find good things there, and have not been disappointed.

Pointing out the improvement of the mental powers which is caused by exercise of the body, he truly enough limits this observation to moderate exercise. The student, we apprehend, will always experience, not only that without bodily exercise the mind becomes languid; but that if much active exercise be taken, or if he be very much in the open air, the aptitude for mental exercise is lost, dissipated in mere physical happiness. Those who wish to live a life of study must take exercise until refreshment is produced, but stop short of excitement. Men of science have nothing to do with athletic sports. No fox-hunter is addicted to long-continued thinking. In these matters, as in all other matters, moderation is wisdom. Vigour of body, and strength of nerve, are to be courted in the air, and in the sun, and in active exertion. Mental preeminence demands the shade, the silent study, a tranquil unexcited body, and an exercised mind. Seeking either too ardently, we depart the farther from the opposite advantages: the hue of health and strength of muscle may be purchased by mental stupidity; and the finest pleasures of the intellect bought at the price of a sickly body and a shattered nervous system. The truest benefactors of mankind, and those whose faculties have been exercised for the greatest number of years for the good of others, have been men whose occupations led them to diversified habits; and all who desire to be equally useful should remember their example.

After speaking of the attitudes of standing, standing on one foot, kneeling, sitting, and the recumbent posture, Dr. Kilgour adds, in his peculiar way:

> "With the exception of the recumbent posture, and in it only lying on the back, all these are accompanied with some muscular exercise, but they are exercises which affect only one set of muscles, the extensors. They are not so beneficial to the body as where extensors and flexors are alternately called into play, and they are fatiguing or exhausting instead of strengthening. 'Don't loll in that manner, Miss," bawls the kind mistress from her easy chair, to the young girl who has bent her body forward or to a side, in order to give some ease, and bolt upright again sits poor Miss to her task; but a weary and a profitless task it is, for it is a weary and exhausted mind, in consequence of a weary and exhausted body, which is applied to it, and she girds her stays the tighter next day to support her. Lolling is a heinous offence in schools, and to keep the mind *intently occupied*, and to prevent somnolency, the pupil is seated on a form without a back or a front, on either of which a support might be sought! The pupil of the Peripatetic philosopher was more fortunate than the inmate of the modern school. He got knowledge with exercise, and without exhaustion and fatigue; much better was he walking than sitting upright on a 'school form.'" (P. 187.)

Dr. Kilgour commends walking as the most natural and beneficial kind of exercise. A good walker, he says, is always a healthy person. Leaping is not to be recommended, and running is too severe an exercise. And here Dr. K. runs off into his jests. 'Smart walking,' he says, 'is quite sufficient; unless a person hereafter expect to have to run for life or liberty; and, in that case, a well practised pair of legs is of service. To distance an enemy or a deer is no bad thing, when one cannot conveniently knock him down.' So also, in advising the physician to accommodate the exercise he prescribes to the habits of the patient, he cannot avoid sliding into his customary pleasantries. 'It is not a matter of indifference,' he observes, 'to the recovery of the broken down constitution of a debauchee peer, whether he be sent to the treadmill or to his shooting box; nor is it a thing of light moment whether the short thick legs of an obese, dumpy cit, covered with the usual breeches and stockings, carry him to his garden to prune his own trees, and watch his lilies and roses; or that the same legs, harnessed in close leathers, be sent on a tramp of some miles after the dogs, to be landed in a swamp whence the owner of these legs will not be able to extricate them.' Again, he sagaciously vindicates dancing, in the face of the prejudices of Dr. Willich, who, in a book which was in our younger days a great authority in quiet families, declares dancing particularly injurious, nay dangerous to females, and, deprecating the cooling process of the fan, advises the whole company after dancing is over, and before they venture into the open air, to change their *linen,* and afterwards to wait a quarter or half an hour, before they return home, taking meanwhile tea. 'It would really be amusing," observes the relentless Dr. Kilgour, "to hear the cry of 'the Marchioness' clean linen,' instead of the Marchioness' carriage, and my 'Lord Charles' fresh shirt,' instead of his cab.' Fencing finds much favour with him. The pupil of the dancing-school he regards as ever the mere creature of art; but the fencer has nothing of this: "he is equally without the lout of the raw bumpkin, and the grimace of the man that spends half his days neither in the heavens nor on the earth, but between the two." We apprehend that some of our readers may be matter-of-fact enough to require to be told that the man thus marvellously defined is no other than the dancing-master. Even in a foot note, the good doctor's wit deserts him not; he relates the anecdote of the Cardinal Richelieu being surprised by a courtier whilst taking what are called standing-jumps about his study; and slyly adds, "Jumping, and especially jumping *round,* is a favourite exercise with ministers and courtiers." Once more referring to Dr. Willich, who, speaking of the good effects of declamation, intimates that the exercise of the voice may be particularly salutary to the female sex, who are more confined at home than men; Dr. Kilgour lauds the scolding of servants, and "that much calumniated piece of domestic duty—the reading a curtain lecture." The observations of our author on Swimming, Riding, and Sailing, are sensible, and strongly expressed, and he gives honour due to Friction, an agent too much overlooked. To young children, especially during the period of dentition, friction and the tepid bath are, he considers, the safeguards of life. "The professed *Rubber,*" he adds, "often meets with the *nasus aduncus* of the school-learned physician, but it would be well if this last learned gentleman would turn his scholarship to reading the many histories of cures by means of friction; and that he would recollect what Fuller says, that, 'Exercise is to physic as a bandage is to surgery, an assistance or medium, without which many other administrations, though ever so noble, will not succeed. Your regular pill, powder, and draught gentleman has a great contempt for rubbing; the effect of his ignorance."

In many modern works have been set forth the errors of bodily constraint committed in female education. They cannot be mentioned too often. Dr. Kilgour, quoting Dr. Cheyne's admiration of the earnest desire of romping, jumping, wrestling, and running, planted by nature in young persons, whereby, he says, their joints are rendered pliable and strong, their blood sweet and proper for a full circulation—exclaims in language of the strongest, but well worthy of attention:—

> "Meditate on this, ye mothers, whose poor girls can scarcely walk, much less run and romp; and who procure for them crooked backs and pale cheeks. Meditate on it, ye parents who send your daughters to fashionable boarding-schools, in order that, in acquiring art, they may lose nature; and ye who are looking out for wives, say, will you take this deceptive creature with her pale cheeks, and fœtid breath, and distorted body—the victim of her mother and fashion—or her who comes bounding down the hill-side to your arms, with her ringlets streaming in the wind, her face with the freshness and glow of health, her body in the luxuriance and freedom of unchecked and uncontrolled nature, and her kiss sweeter than
>
> "Sabean odours from the spicey shore,
> Of Araby the blest."
>
> (P. 201.)

We have given the reader sufficient specimens of the style of Dr. Kilgour to enable him to imagine how many clever things are smartly said upon Digestion, Food, and Drink; and far be it from us, in this dull age, to quarrel with an author for his jokes.

It is, we think, incumbent on regular practitioners to begin to pay a more systematic attention to Hygiène than has yet been done in this country. In France, in Germany, and in America, it constitutes a separate chair in the schools; with us it hardly gains attention in the sick room. Yet the importance to each patient of the air he breathes, the food he swallows, the exercises he takes, cannot be over-rated. The irregular practitioners, very heedless of medicine, pay more attention to these things, and gain thereby oftentimes the credit which should accrue to the man of science, who, deeply impressed with a sense of the powers of physic, is oblivious of the non-naturals. If this forgetfulness has not heretofore been without disadvantage, it must now be more detrimental to the regular practitioner's just fame; for there will soon be few houses into which Smith, or Combe, or Dunglison, or Kilgour, or Hodgkin, or some other teacher of hygienic precepts has not found his way; and they will be found more difficult to dispose of than was in times not long past by Buchan, the terror of the bygone race of apothecaries. Dr. Kilgour, who is, indeed, not very sparing of his sarcasm, but whose sarcasm is often very well directed, reproves us all in good set terms for our avowed neglect. Speaking particularly of the *young* practitioner, he says—

> "Whilst he is pondering on the case, weighing accurately in his mind the action of each medicine he is exhibiting, and watching with intense anxiety for its expected sanitory effect, the patient will quit this world very likely with the medicine in his bowels, but along with it some solid and substantial article that would require the digestive powers of the healthiest stomach. A hard bed is a "hard thing to a healthy person, and more especially to a fat female dowdy who measures all others' comforts by her own; and where rest might be life, death is hastened by following the advice of this feeling-hearted soul, in moving the patient for the purpose of shaking up his bed. A free ventilation might soon put him on his legs, and it would for certain expel effluvia; but open windows let in the cool air, and cold air is better felt than contagious effluvia; so the windows being kept shut, and the bed-curtains drawn close, the patient has the happiness of dying in an atmosphere of his own creating, raised to a proper putrifying temperature by means of a blazing sea-coal fire. What can we think of the man who, in circumstances like these, calls for paper, pen, and ink, in order that he may scrawl a receipt, in indifferent Latin, for worse medicine, and knows not to order that which would relieve the patient without pain or expense." (*Introd.* p. 4.)

The young practitioner will see that Dr. Kilgour is not very complimentary: but his advice is, notwithstanding that, by no means unworthy of being kept in remembrance.

Enough, we think, has been already said by us, in these observations of the several works we have noticed, to impress every reader with the utility of making hygiène not only a private study, but a part at least of medical education. This enlargement of the academical curriculum would certainly sometimes enable medical men to make a more advantageous appearance than they now generally do when called upon for public testimony. Their discrepancies, and the loose manner in which they express themselves, and the apparent want of fixed and guiding physiological principles, cause them to be looked upon as little better than paid advocates of one side of a subject. Nor can we wonder at this. The judicial annals of this country would furnish specimens of medical evidence so unphilosophical, so extravagant, and so suspicious, as to shake the credibility of the whole profession.

Any reader versed in the history of this country for the last forty years, must be able to call to mind more than one occasion in which a knowledge of the laws of hygiène might have prevented great public loss; and such loss would have been much greater and more frequent, if the intelligence and research of the medical officers of the navy and army had not led to the discovery of many of those laws by observation. But without taking this wide view of the subject, certainly no more useful object of enquiry can be presented to the attention than that of the means of *preserving* good health; without which all the gifts of fortune are deprived of their value, and life itself is a burthen. There are melancholy cases of disease against which no prudence would have been effectual; but their number is insignificant compared with that of those which spring from ignorance and neglect. By removing this ignorance, the instances of neglect will be made more rare; and nothing is more certain than that by increasing the general health of mankind, the general amiability and virtue, and thus in every way, the general happiness of human beings is increased at the same time. Great maladies, like great misfortunes, are borne with patience: the mind raises itself to a level with its duty, and attains the virtue of resignation: but the little hourly grievances of the valetudinarian, like petty evils, fret the soul without rousing it to dignified resistance, and make men at once miserable and contemptible. Now, the *little* evils are precisely those which hygiène can obviate; and if, beyond this, it can lessen the chances of occurrence of some of the greater maladies, it is most worthy of the consideration of every rational being.

The wealthy and the middle classes of society already enjoy, to a great extent, the advantages arising from those comforts which it should be the object of enlightened hygiène to secure to all portions of the community. Calculations which may be depended upon, go far to establish that position of Dr. Southwood Smith, of which we have already spoken, that longevity and happiness generally go together. In France, according to M. Villermé, the difference of mortality is signally observable; the deaths in some wealthy departments being only 1 in 50, and in some of the poorer arrondissements of Paris, 1 in 24 and a fraction; and, in the richer arrondissements, 1 in 41 and a fraction. According to Dr. Emerson, the deaths among the white inhabitants of Philadelphia are 1 in 42-3; but among the blacks 1 in 21-7. The Life Assurance offices of London present facts equally striking: Mr. Morgan found that the deaths which had occurred during thirty years, among 83,000 persons insured, were only in the proportion of 2 to 3 of what had been anticipated. The average of the annual deaths in the Equitable Society for twenty years was 1 in 81-5. That of the University Club, for three years, 1 in 86. Dr. Dunglison quotes these instances, and looks forward with a hope, which we fervently trust will be realized, to results no less satisfactory throughout the United States; where, he says, oppression is impossible; where equal laws and an extent and capability of country prevent any from perishing of want; and where each may, with temperance and industry, enjoy a condition which, compared with the condition of the wretched lower classes of many portions of the old world, may be called affluent. These, indeed, are glorious prospects. Nor is there anything unreasonable in them. Unless the social compact can effect this, what better is the fate of the civilized man than that of the wild hunter. Hewers of wood and drawers of water there may always be; but there can be no real necessity for these hewers and drawers being the prey of poverty, disease, and vice, to the end of time. To believe the contrary is opposed to the belief of a good Providence superintending the affairs of man; and so gross a belief is seldom found the associate of knowledge drawn from a contemplation of the works and ways of that Providence which ordereth all things in heaven and earth. If there is one truth more conspicuously written for man's instruction than another in God's government of the affairs of men, it is that where civil liberty and virtue prevail, where the laws are just, and the people are enlightened and industrious, —there diseases are fewer, life is longer, and happiness greater.

If, then, the philanthropist turns to the actual condition of the lower classes in the luxurious nations of the old world, as in our own, which presents enormous extremes of fortune, how is he to diffuse among them that knowledge upon which so many blessings depend. Whoever has been engaged in such attempts knows that the great difficulty is to find persons possessed of the requisite knowledge, together with the power of communicating it to those comparatively ignorant, and whose education has little prepared them for its reception. It is a just observation of the Count de Tracy, one of the most distinguished of the living metaphysicians of France, a country which has produced so many, that the great art of teaching is, to commence exactly at the point which the student has already reached. The discovery of this point is not always very easy. Besides which, there is with respect to many whom it would be desirable to induce to be learners of what relates to health and disease, another great difficulty, namely, how to reach them at all. Numerous books, and some of them of great merit, have of late years been prepared for the poor; but the poor never see them. They are read and admired by all, except those for whom they are intended, and whom they would most instruct. To bring useful knowledge into poor men's houses is still the great difficulty.

If we could flatter ourselves that our recommendation would be effectual with the numerous physicians and surgeons who may peruse these pages, we would earnestly impress upon them the duty of assisting in this great, humane, and we may truly say *patriotic* labour, of instructing the poor how to be healthy; and thus to facilitate their being virtuous, prosperous, and contented. Medical men alone can know and fully estimate the irrefragable evidence which justifies these expressions. They alone possess the knowledge which would be, to the poor, health and life. This great service would not be less worthy of them than those more laborious services which they now willingly give in hospitals and dispensaries to many who ought not to require the aid of charity. The truest, noblest, and most effective charity is that which teaches the poor to depend on themselves, to avoid the causes of disease, and, by preserving their health under all ordinary circumstances, to secure the means of providing for such visitations as care cannot avert.

From the works already reviewed in this article, any medical man may, with little trouble, derive materials for lectures to the poorer classes of his townspeople, and his local experience will always furnish him with illustrations. The public will be found grateful for such exertions. In a work on which we have not made any comment, that of Dr. HODGKIN, there already exists a model of the kind of lectures best adapted to the uninstructed classes, or to those who have had a little instruction and wish for more. We have not space left to do justice to these admirable discourses. They are but four in number, but they are literally *full* of information. The first lecture comprehends the subjects of air, light, cleanliness, and clothing; the second relates to articles of food, solid and fluid; the third is on the subjects of muscular motion and the intellectual faculties; and the fourth is on successive generations, and the education of youth. The mere enumeration of these subjects is sufficient to shew how well the lectures are adapted to the working classes; but it is impossible for us to convey to the reader a just idea of the variety and quantity of matter condensed into them, or of the simplicity and earnest philanthropy with which it is communicated. Dr. Hodgkin, who is well known to the profession as a pathologist, is a member of the society of friends, and to us, we confess, it gives no displeasure to see in some parts of the lectures, as on the subject of war for instance, some of what, in the present sophisticated state of many who profess and call themselves Christians, we suppose we must call an amiable *enthusiasm.*

Justly does Dr. Hodgkin exhort his hearers, the mechanics of Spitalfields, to furnish *by their conduct* a plain and irresistible answer to those who call in question the propriety and advantages of the institution in which he delivers his lessons to them; and who conceive that to cultivate the native talent, and to increase the knowledge of working-people, "is to render them unfit for the discharge of their duties, and to make them dissolute private characters and disaffected subjects."

After enforcing the necessity of pure atmospheric air to man's continued existence, by a narration of the dreadful events which took place in a single night in the black-hole at Calcutta, he points out the precautions by which, even in the smallest and poorest houses, a supply of air may be obtained; and how a little ingenuity will remedy the faults of refractory windows, doors, and fireplaces. He warns them, by some striking anecdotes, of the effects of the fumes of charcoal, and those produced by the fermentation of beer and other liquors; and by what is called the choke-damp in coal mines; teaching them how its presence may be discovered, and how it may be drawn off. This leads to the consideration of the effects of accumulated filth in certain states of the atmosphere: he quotes Sir John Pringle's authority concerning the destructive consequences traced to want of attention to camp-privies; alludes to the improved health of sailors since the cleanliness of ships was more regarded; contrasts the present state of London with that of cities in which the plague yet prevails, as in former times it prevailed in London; and points out the fact that the worst fevers which yet pay us occasional visits, first appear in large cities, such as London, Edinburgh, Dublin, and Cork. These considerations lead him to the subject of Spitalfields. This constitutes one of the parts of London into which, it has often struck us, that if a gentleman or lady from Grosvenor Square were removed blindfolded, it would be difficult, when they were allowed to look about them, to persuade them that they were yet in London. Who, that has ever explored the terminations of Drury Lane, or cast a hurried glance up the courts opposite to the very walls of Gray's Inn, or, when going to dine north of Portman Square, has caught a glance of Calmel Buildings, can have done so without being sensible of the stinging satire all these dens of wretchedness, disease, and wickedness, convey upon our boasted civilization and refinement! In Spitalfields the contrast is less violent; but it is still a melancholy district, much resembling the worst streets of some of our worst constructed manufacturing towns; inferior, indeed, to the worst parts of Birmingham. Avarice, against which all appeals are vain, has so ordered the size and arrangement of many of the houses, that all which the poor occupiers can do to keep out disease must sometimes be baffled. The want of under-ground drains can, however, in some degree, be compensated for by a careful attention to the unobstructed state of the superficial gutters, and to the cleanliness of the highways. Filth is sometimes permitted to accumulate for two or three months. Large and deep holes are often left in the pavement, where pools of stagnant and offensive water are formed, "which being excluded from the influence of the sun and wind, are never dried up by the greatest heats of summer, but are constantly present to assist, by maceration, in the corruption and putrefaction of the various animal and vegetable offals which are thrown into them." In such streets, Dr. Hodgkin has found it difficult to allow a patient recovering from fever to go out into the air; and we are glad to learn, by a note appended to the lecture, that there has been some improvement since it was delivered. The neglect of the streets always leads to neglect of the interior of the houses: to keep them clean is, indeed, a hopeless task; and thus the seeds of disease are introduced to the dwellings. Dr. Hodgkin represents how easy it would be, by half a day's work, "to purify and enliven the walls and ceilings by the very healthful application of white-wash or lime;" by which, in addition to cleanliness, *light* would be introduced into the houses. The advantages of bathing are then alluded to, and Dr. Hodgkin suggests that the vast quantities of waste hot water poured out from the numerous steam-engines employed in the manufactories, might be made the means of placing a warm bath "within the reach of the poorest individual, who finds the means of procuring hurtful and debasing indulgences." The lecture is concluded by some excellent observations upon clothing; and the subject of light is again referred to, with reference to its influence on the health.

The second lecture contains a great variety of information concerning the different kinds of food and drink. The destructive effects of spirit-drinking are forcibly dwelt upon, without exaggeration, and the following remarks will interest the medical reader.

"The fatal influence of intemperance in drink, is occasionally seen a little beyond the middle period of life, at which time persons are not very unfrequently subject to what is called climacteric decline. Some are favoured to recover from its attack; but to the spirit-drinker it almost always proves fatal. Premature old age is another result of spirit-drinking. I have often noticed, with surprise, in the course of my practice, that when I had suspicion of the habits of a patient, and have enquired his age, that with all the marks of age and decrepitude upon him, he was some years my junior. The habit of spirit-drinking unfits its victims to bear the wounds, fractures, and accidents of various kinds to which all are liable; and the skill of the surgeon is often baffled, or foiled, by the ill condition of his patient, who, by a long course of spirit-drinking, has destroyed the powers of his constitution. It is also worthy of remark, that the spirit-drinker is peculiarly susceptible of disease of all kinds, and, consequently, is likely to fall the first victim to fevers, or other epidemic distempers. The ravages of the cholera have confirmed this by unnumbered proofs.

"The heart and blood-vessels do not escape the injurious effects of ardent spirits. The former is subjected to great varieties of excitement, and the palpitations so produced may lead the way to permanent disease. Ossification of the valves, and thickening of the lining membrane, are the probable results. The arteries, both large and small, are very liable to become ossified; and when this effect is produced, the individual is very liable to apoplexy and gangrene. In a former part of this lecture, I have hinted at the injurious effects which improper drinks may produce on the lungs. There is, perhaps, no error of this kind by which this effect is so strikingly produced as when ardent spirits are taken. Besides the obvious effect which they must have in promoting and aggravating inflammation of the lungs, whenever these parts suffer from irritation, at a time when the system is under the influence of spirits, there are two other modes in which mischief is produced, affecting these organs, which are less obvious. First, it has been ascertained by experiment, that a greater exercise of respiration is required when the system is excited by spirit: hence, DIVERS cannot remain so long under water after they have been taking spirits, as they can at other times. Runners, also, find their wind shortened after drinking spirits. Now those who take spirits in sufficient quantity to affect the system, and then, under the excitement which they have produced, apply themselves to some laborious or active exertion, must expose the lungs, or organs of respiration, to the chance of very serious injury. The other effect to which I allude, may seem at first to be at variance with what I have just related, as well as opposed to the vulgar or common opinion respecting the effect of spirits. It is generally supposed that they promote the warmth of the body; on which account they are frequently taken by persons who have no inclination to intemperance, when they are peculiarly exposed to cold. This is a very fallacious practice. A transient glow may indeed be produced by the quickened circulation which for a short time succeeds the swallowing of the dram; but this afterwards becomes proportionally more languid; in consequence of which the surface, and more especially the extremities, become pale and cold, whilst the internal parts are both stimulated by the spirit, and loaded with the blood which has left the surface of the body. The object of maintaining and equalizing the warmth of the body is completely lost; whilst the internal organs are exposed to the danger of inflammation. This effect of ardent spirits is seen carried to its greatest and most dangerous extent in Russia, and other countries where extreme cold prevails. The inhabitants of these countries are apt to give way to the temptation to take spirits to an amount which produces overpowering intoxication. If, in this state, they expose themselves to the cold air, or are driven out of dram-shops and turned into it, the combined influence of the benumbing cold, and the liquor they have taken, produces a profound degree of torpor. Breathing, which is closely and necessarily connected with the production of animal heat, is almost suspended, and the individual, unless rescued from his dangerous situation, is soon frozen to death.

"The deleterious effect of spirit on the skin, is seen in the production of what are usually called grog-blossoms. Spirits, likewise, promote attacks of erysipelas, which is often severe, and even fatal, in persons whose constitutions are shattered by the use of spirits.

"The worst effects of spirits, as connected with bodily health, are those which it produces upon the nervous system; by which, I mean the brain and nerves. The first effect of a large dose of spirits on this system, is almost immediate, and quite notorious, causing swimming of the head, confusion of ideas, and staggering gait. The late Dr. Spurzheim, who is almost universally known, in consequence of the long-continued and close attention which he paid to the brain, declared that he had found brains peculiarly hard in this country, which he attributed to the general abuse of spirits. A striking, and often immediate, effect of intoxication, upon the brain, is apoplexy. When this is not immediately fatal, palsy is almost sure to remain. Epilepsy is another very serious disease of the brain, which, when not produced, may be greatly aggravated, by the influence of spirits. In females, they greatly promote a tendency to hysterics. One of the most serious diseases of the brain, brought on by the use of spirits, is called delirium tremens. Persons, whose age might induce one to suppose that they were in the prime of life, are sometimes carried off in a few hours by this dreadful malady. Those are the most liable to die from this affection who have kept up an almost incessant state of excitement by means of ardent spirits. It is not necessary that the quantity taken should have been such as to produce an extreme degree of intoxication. The individual may even have been able, in some degree, to attend to the various concerns in which he might happen to be placed; when, after the sudden removal of the stimulus, or the abstraction of blood, or some powerful influence on the mind, or sometimes without any assignable cause, a state approaching to madness, and often marked with tremors, muttering, and prostration of strength, suddenly comes on, and if not pretty promptly relieved by well-directed medical aid, is very apt to prove speedily fatal." (P. 153.)

From the remaining portions of Dr. Hodgkin's little book we find we must refrain from making any extracts, although in every page we observe something useful and something interesting. We gave honour due to Dr. Combe for representing the hard fate of governesses. We have to offer our meed of praise to Dr. Hodgkin for setting forth the unpitied lot of milliners. Condemned, like glass-blowers, or those who work in metals, or toil in manufactories, to breathe a heated vitiated air, they are still more debarred from exercise, and they are even kept longer at work. Almost daily experience shews the effects of this system to medical men, in the ruined constitution of young females. Enquire into their habits, and it is found that they go to work as soon as they rise in the morning, perhaps at six o'clock; that their meals are hastily taken, that they seldom or never walk out, but sit at work till eight, often till ten o'clock, and sometimes, when fashion demands more exertion from its slaves, till after midnight. Young as many of them are, they soon feel the effects of this regimen; and the after consequences on their health are very serious. Their first physical misery is indigestion; then follow amenorrhœa, debility, perhaps phthisis: or, if they survive, diseases of the liver, severe pains, anasarca, and ulcers of the legs. When to this we add that they are, as Dr. Hodgkin observes, deprived of the comforts of home and of domestic habits, that their occupation gives rise to a love of dress, and that this increases the danger of the temptations to which they are exposed, we have a lamentable picture of what may be suffered by one class of people in order to minister to the extravagance of others.

In our notice of the five publications of which the titles are prefixed to the present article, it will be seen that our commendation is scarcely qualified by anything in the shape of censure. If we were particularly anxious to display our critical perspicacity, we might, perhaps, point out some pages in the works of Dr. Southwood Smith and Dr. Combe that might have been omitted without disadvantage to the reader; and, availing ourselves of Dr. Kilgour's fearless style, we might have been more edifying in correcting its redundancy, or even in reproving the too free range of his subjects. We might have rebuked Dr. Smith for assuring his reader that the second sound of the heart is still generally referred to the dilatation of the ventricles; and we might have detected occasional misquotations from Byron and Shakspeare in Dr. Dunglison, and occasional blunders in Dr. Hodgkin's illustrative anecdotes, as in the celebrated one relating to Pitt and Dundas, which he has grievously spoiled. But this would have been unworthy of us. The design of these authors is so excellent, their knowledge is so extensive, and their good sense so conspicuous, that we can only congratulate the public on the possession of such able teachers. Differing from one another in style, and each pursuing a different route towards the same object, they will help to supply the want of useful physiological knowledge throughout all the gradations of society. Dr. Southwood Smith's work will afford matter for reflection to many meditative and well-informed minds; and Dr. Combe's treatise especially recommends itself to those engaged in the education of young persons of the middle and higher classes. Dr. Kilgour will gain the ear of numerous readers to whom a graver book, or one less abounding in forcible and homely similitudes, might be addressed in vain; whilst the magistrate and legislator will, perhaps, prefer the sedater matter in Dr. Dunglison's instructive volume. In each of the publications, also, medical readers will find much that is worthy of their notice, and there are many portions of the work of Dr. Dunglison, and also of that of Dr. Kilgour, which are particularly addressed to them, and contain much that they ought to be thoroughly acquainted with.

As each successive chapter of all these works has been the subject of our temporary consideration, the reflection has continually recurred to us, that of all the evils therein depicted as incidental to man, affecting different parts of his system, or meeting him in different parts of the world, the greatest number fall with the most certainty and the greatest weight upon the poor. To us, therefore, of all the works of which we have spoken, that of Dr. Hodgkin is the most deeply interesting. It is addressed to those who err not from vanity or from fashion, but from the necessities of their position, to those whose unsophisticated minds thirst for knowledge, and whose understandings are quite equal to the task of applying it to their every day life. The highest praise conferred upon an ancient philosopher was, that he had brought down virtue from the clouds and made her known to mankind. The next praise is due to those who bring wisdom from the schools, and lead her into private habitations. Much of this praise is due to each of the respected authors whose labours have been the subject of our comments; and it is especially due to the last-named writer, who has carried the light of knowledge, by means of his lectures at the Mechanic's Institution, into a thousand humble families; into byways, and courts, and alleys, too, where comfort seldom dwells, and where the throne of infection is set up; and where poverty and ignorance have so benumbed their victims, that they even require to be taught how to avail themselves of the common gifts of light and air.

Nor are there wanting considerations of much importance which should recommend the study of hygiène to individuals placed in circumstances of greater comfort; considerations on which the moralist, if not the physician, might forcibly and properly dwell. Medical men, who see more of the interior of society, and the details, if we may so call them, of domestic life, than any other class of observers, well know to what an extent happiness is abridged by mere infirmities of temper, and how often the peevishness, despondency, irritability, and discontent, which torment the social circle in despite of many respectable and even amiable qualities, are in a great measure the direct results of an imperfect attention to hygienic rules; less the product, in other words, of a bad disposition, than of a confined atmosphere, and indolence bodily and mental. Still more serious are the effects of negligence of these particulars on the character of the intellect, especially in middle age. No one who values the healthy activity of his mind, or wishes to accomplish great or useful objects; no one who dreads the invasion of frigid torpor and inactivity, and reflects on the possibility of surviving his mental life, should deem attention to his bodily health an unworthy care. To prolong existence is a far less worthy object of concern than to maintain the efficiency of the mind and body *during* existence: and, with this application, we may admit the wisdom of an ancient saying, that a wise man should be "careful of his health and careless of his life."

ART. II.

Report of the Fourth Meeting of the British Association for the Advancement of Science; held at Edinburgh, in 1834.—*London,* 1835. 8vo. pp. 700.

THE establishment of the British Association is likely to form an important epoch in the history of science, and, with reference to that part of it in which we are more immediately interested, the most beneficial results may be anticipated. "Sine philosophiâ trunca et debilis foret medicina" was the saying of the great Roman physician; but, though its truth has seldom been called in question, it has been too generally lost sight of; and, even when kept in view, has not always been fortunately applied: witness the many instances in which other branches of philosophy have been made to supplant, rather than illustrate, the principles of medicine; in which physiology, the basis of all rational medicine, has been resolved into chemical, mechanical, or metaphysical hypotheses, to the exclusion of the actual observation of the laws of life. This has arisen from too partial a recognition of the relations of medicine to other departments of knowledge, each enquirer bringing it into apposition with that branch of science with which he happened to be most familiar, without considering that principles, in themselves true, are not equally applicable to every subject.

The study of every science has its own particular influence on the development of the mind, and generates peculiar aptitudes for the reception of truth, and peculiar liabilities to error: hence the sciences demand extensive aid of each other. It is not, indeed, either necessary or possible that the professor of one branch should be profoundly versed in all others, but he may nevertheless be sufficiently imbued with the spirit of universal science to exempt him from partial and exclusive habits of thinking. It is obvious that no science stands more in need of collateral aid than medicine, not only from its being one of the most arduous subjects to which the mind can be applied, but from the immense variety of knowledge which it concentrates; thus drawing from every source of observation, and exercising every species of reasoning: the adoption of medical philosophy into the great circle of the sciences, under the auspices of the British Association, is therefore an event to be viewed with much satisfaction by every enlightened cultivator of our art.

Among the papers contained in the volume before us there are two relating to medicine; one on the laws of contagion, the other on animal physiology.

I. *Report on the State of our Knowledge of the Laws of Contagion.* By William Henry, M.D. F.R.S. &c. late Physician to the Manchester Royal Infirmary and Fever Wards.

After some general remarks on the bearings of the subject, and a just animadversion on the controversial and disingenuous spirit by which too many writers have been actuated, Dr. Henry proceeds to illustrate the laws of contagion. The term contagion is used in its more comprehensive sense, without reference to the distinction attempted by some writers between *contagion* and *infection*. It is unnecessary for us to dwell on each of the laws here laid down, because many of them, though properly introduced into a connected survey of the subject, are too well established to admit of any discussion: several of them, however, refer to points of considerable moment which still remain undecided, and these we may notice without adhering precisely to the arrangement of our author.

The Origin of Contagions. It is well known that some contagious diseases, as typhus, frequently originate in the animal body, when subjected to the action of certain external causes, among which the most obvious are confinement in crowded and ill-ventilated places, deficient or unwholesome food, intemperance, excessive fatigue, long-continued exposure to cold and moisture, and depressing passions of the mind. Such diseases are also occasionally observed to arise sporadically, without the intervention of the causes above alluded to, and, to all appearance, independently of contagion. There is, however, a class of contagious diseases which have never yet been proved to arise sporadically, and are generally believed never to do so: the contagions which produce these are therefore called *specific contagions;* such are those of syphilis, measles, smallpox, cowpox, hooping-cough, scarlatina, &c.

Dr. Henry supports the common doctrine, that contagious diseases of a specific kind never originate spontaneously: this position he conceives to be strengthened by certain facts, which we will consider severally.

1. Specific diseases "have never been met with in any country, when visited for the first time, after having been previously shut out from intercourse with the civilized world."

The argument derived from this fact is somewhat invalidated by the consideration that a rude and scattered people, among whom the intercourse of life is comparatively rare, and whose habits approximate in some degree to those of nature, are less subjected to the causes from which contagious diseases of every kind are most likely to arise, than a people further advanced in the social progress: they are not exposed to the vitiated atmosphere of crowded cities, to the union of intemperance and want which destroys the health of a poor and immoral population, nor to the various anxieties and causes of mental depression with which the advantages of civilization are alloyed.

2. "The historical eras may be fixed when many of these first invaded the countries where they now prevail, and the line of their march may be distinctly traced out."

This is a powerful argument in favour of the propagation of such diseases by contagion, but it is no argument against their occasional origin from other sources.

3. "Specific diseases have been known to become extinct for a time in certain situations, and their revival has been traced unequivocally to a foreign source. Thus, the smallpox disappeared several times from the island of Minorca, apparently from having already attacked all who were liable to it. In one instance the interval extended to seventeen years; in another, after having been absent for three years, its return was clearly traced to the crew of a ship of war which had arrived from the Levant. Seven similar intermissions of the same malady are recorded to have happened at Boston, in New England; in three only of which the channels of its reintroduction could be discovered. But these three instances render it much more probable that the poison causing the disease should, in the remaining four, have been imported anew, than that it again should have been generated. For, though it cannot be denied that a poison may be again elaborated by a concurrence of the same circumstances which originally

produced it, yet, in assigning causes, we must be guided by actual observations, and not by possible contingencies."

Here we think our author's reasoning turns against himself. It is admitted, with reference to a specific contagious disease, the smallpox, that it *may* originate independently of contagion: nay, it is certain that, in one instance at least, it must have done so, or it never could have originated at all. Again, it is admitted that it has been known to arise without the possibility of its being actually traced to a foreign source: it is moreover previously allowed by Dr. Henry, that in this country, where the disease is constantly prevalent to a greater or less extent, individuals are often affected with it when no source of contagion can be discovered: "it frequently happens that the most searching and diligent enquiry fails to trace a specific disease to its source. We are told that not one in twenty cases admitted into the Smallpox Hospital in London could be referred to any immediate original. In a few instances specific diseases have appeared within boundaries which might have been supposed to have perfectly excluded them. In the Penitentiary at Millbank, a prisoner was seized with smallpox, notwithstanding his apparently perfect insulation." Now, although no positive conclusion can be drawn from these premises, we would submit that, adopting our author's principle, and being guided by *actual observation*, we are led to infer that, although the disease in question be generally propagated by contagion, it is by no means improbable that it does occasionally originate in the human body, independently of this cause: the entire possibility of the latter occurrence being conceded, every instance in which it *appears* to take place goes so far in favour of the supposition that it *actually does* take place; and, although due allowance must be made for the influence of contagion in many cases where it cannot be traced, still a large number of cases in which a specific disease arises to all appearance spontaneously affords at least a probability that it really does so arise in *some* of them.

The instance of smallpox, however, is perhaps more favourable to the opinion espoused by our author, than that of several other diseases. With reference to measles, and still more to scarlatina and hooping-cough, every experienced practitioner must have met with instances so apparently sporadic, that, if his mind had not been prepossessed with the idea of contagion, he would never once have thought of attributing them to this source; and he must also have seen a number of cases of each of these diseases occur in a neighbourhood so simultaneously as almost to exclude the supposition of contagion as a probable cause of their appearance.

But, of all known diseases, certain affections resembling the venereal afford most countenance to the opinion that specific contagions do occasionally arise spontaneously.

John Hunter admitted the existence of anomalous animal poisons generated independently of infection, but producing effects sometimes so nearly resembling syphilis as not to be easily distinguished from it, and, like syphilis, communicable from one individual to another. Several very striking cases are given in his work on the Venereal Disease; and he was of opinion "that new poisons are rising up every day, and those very similar to the venereal in many respects, though not in all." (P. 387, 4to. ed.) Mr. Abernethy went so far as to declare that he knew of no criterion by which the spurious disease could in all cases be distinguished from the genuine. "Mr. Hunter," he observes, "seemed to wish the prosecution of this subject, probably from the expectation that some characters appropriate to these diseases might be detected. I have not, however, been able to discover any: the fictitious disease in appearance so exactly resembles syphilis, that no observation, however acute, seems to be capable of deciding upon its nature." (*Surgical Observations*, 8vo. 1824, p. 134.) We believe that the greater number of surgeons of the present day will be found much more disposed to extend than to dispute the observations of Abernethy on this point. We will not here hazard a suggestion of the possibility that two diseases, which cannot by any means be distinguished, may, in effect, be one and the same disease; and hence that actual syphilis may, even now, occasionally originate spontaneously: it is sufficient for our purpose that specific animal poisons are found, in the present day, to originate in the bodies of certain individuals, and to be communicated from these to others. If such be the fact, and there is little doubt that it is so, there seems no improbability in the supposition that those specific contagions, which have long been abroad among the species, may, under certain circumstances, be generated anew in the system of an individual.

We might strengthen the analogy by the instance of *hydrophobia*, were it not that some writers have doubted (though, as we think, without sufficient reason,) whether this disease ever arises, even in the canine race, independently of infection. It may also be objected, with more validity, that its origin does not come fairly within the limits of human pathology, because there is no ground for believing that it ever originates in man.

After all that has been said, we beg not to be understood as unconditionally adopting either side of this very difficult question: our only object in entering upon it has been to oppose a hasty conclusion, which has a tendency to preclude enquiry. If it be admitted as in any degree probable that specific diseases sometimes arise spontaneously, observation will be kept alive to the causes which may operate in their production; but, if it be too readily taken for granted that they never do originate in this manner, we exclude ourselves from an investigation which, though it appear barren at present, may afford important results in some more advanced era of medical science.

Conversion of Simple into Contagious Fever. "Of the nature of those processes," says Dr. Henry, "by which a simple fever becomes contagious in its progress, we are totally ignorant. The opinion that a contagious poison is, in any case, generated by a change in the animal fluids analogous to fermentation or to putrefaction, (a change veiled by Sydenham under the phrase *commotio sanguinis*), is inconsistent with general reasoning as well as with observation. The tendency to putrescence in the solids or fluids of the animal body, at temperatures favourable to that process in dead matter, is counteracted by the undefinable principle of life, so long as that principle retains sufficient energy. During a contagious fever, none of those gases are necessarily evolved, which are the constant products of animal putrefaction. A person sick of typhous fever, enjoying all the advantages of cleanliness and fresh air, and emitting no sensible odour, may yet impart a fatal infection. An instance is on record, in which a person under such circumstances was accompanied, for about half a mile, in a coach, by four individuals, none of whom perceived the slightest odour, but all caught the infection, and died in consequence. It may be remarked also, that the odours, which arise from persons labouring under acute specific diseases, are not similar to those of common putrefying matter, but are distinct and peculiar. When we add to these arguments, that the perversion of a vital process, such as that of secretion, occasions, in at least one decided instance (*rabies canina*), the formation of a poison, by an organ which commonly secerns a bland and harmless fluid, the weight of evidence must be allowed greatly to preponderate in favour of the opinion, that all morbid animal poisons are the results of vital operations; and that chemical changes, if concerned at all, are under the control of the vital principle." (P. 72.)

An interesting enquiry here suggests itself, namely, what other diseases are there which, like common fever, may occasionally become contagious, although they are not so under ordinary circumstances?

Erysipelas has sometimes prevailed as a formidable epidemy, and, even when sporadic, frequently assumes a disposition to spread by contagion: nor is this confined to the idiopathic form of the disease; experience sufficiently attests that erysipelas supervening on wounds may also become contagious, especially in hospitals. Catarrh and pneumonia have frequently presented themselves in an epidemic, and probably a contagious form.

It is also worthy of remark, that a vast variety of diseases have at different times occurred as complications of contagious fever, and formed characteristic features of particular epidemies: so great indeed has been their number, that we may almost conclude, with Sennert, "nihil fere symptomatum et malorum est quod non cum peste et malignis ac pestilentibus febribus interdum conjungatur." (*De Feb.* lib. iv. c. xviii.) It would seem, therefore, that there is nothing in the nature of such affections incompatible with their communication by contagion; since, in the instances alluded to, they are so influenced by the causes of contagion as to become communicable along with the fever they accompany. These considerations point to the possibility that a contagious principle may, under certain circumstances, be superadded to many diseases, and may sometimes operate in determining their frequency when its presence is very little suspected. It must have occurred to every practitioner to see a disease not generally esteemed contagious—as a sore-throat or a diarrhœa,—run through a whole family in a manner not easily to be accounted for; and, although "nec deus intersit" be an excellent maxim, it here applies no more to contagion than to "a peculiar constitution of the atmosphere," the operation of unknown local causes;" and other explanations which certainly do not possess the advantage of superior intelligibility: while, therefore, a belief in contagion is not hastily to be adopted in such instances, there is no reason why it should be absolutely excluded from consideration.

Mode in which Contagions are communicated. "Among contagious poisons," observes our author, "there are some that exist in a visible and tangible state, generally in that of liquids; others are not at all perceptible by our senses, and are known to us only by their effects. The liquid poisons are efficient, only when applied beneath the cuticle, or to parts where the cuticle is very thin, or to the surfaces of mucous membranes; and if immediately and completely washed off, they inflict no injury. The action of some of those poisons, of syphilis for instance, does not necessarily extend beyond the part to which they are applied. Other poisons, when inserted or inoculated, act locally in the first instance, and afterwards give rise to general febrile excitement, which is necessary to the formation of fresh poison in the inoculated part, or in the system. After inoculation for smallpox, the constitutional disturbance is generally well marked; in cowpox, often so faintly as to be scarcely distinguishable; yet even in the latter, some degree of general fever seems to be essential to the perfect state of the pustule. It is only at this period of full development (called the time of *maturation*) that the fluid contents of the pustule, (which in the cowpox is limpid, in smallpox purulent,) can be depended upon for producing its appropriate effect. Before maturation, the fluid is inert; after that period, it is sometimes effete, and sometimes produces a modified disease. All attempts to excite smallpox or cowpox, by inoculating with the blood or with any other animal fluid, have been unsuccessful.

"XI. When the liquid animal poisons are kept in a moist state, at temperatures not exceeding those of a warm atmosphere, they undergo spontaneous changes which materially affect their specific properties. Variolous matter, thus negligently preserved, has been known to produce a train of symptoms resembling those of smallpox, but yet giving no security against the return of that disease. But the liquid poisons, dried at the lowest temperature adequate to that purpose, may be kept in close vessels unimpaired for an indefinite time, and regain their infectious properties when moistened with very little water. The mixture of them, however, with a large proportion of water, renders them inefficient. Dr. Darwin relates that, in some experiments by Mr. Power, smallpox matter was found to be infectious after diffusion through five times its quantity of water; but that its dilution might be carried so far as to render it inert. This is precisely analogous to what happens with common poisons, the most virulent of which is disarmed of its noxious power when sufficiently diluted.

"XII. Of the chemical constitution of the liquid contagious poisons we are entirely ignorant; nor is it probable that the knowledge, if we possessed it, would throw any light on their mode of action. We are well acquainted with the composition of many poisons (the prussic and arsenious acids, for example), without at all understanding in what way they act so powerfully upon the animal system.

"XIII. Beside the liquid poisons, requiring contact for their operation, there is another class which are independent of that mode of communication, and are transmitted to small distances through the atmosphere. Such are those of scarlatina, measles, hooping-cough, chicken-pox, &c. In a few instances diseases imparted by contact are also caught by emanations or effluvia. The smallpox, it is well known, may be propagated in both ways; and the plague, certainly infectious at small distances, has, of late years, been proved to be communicable by inoculation with the matter of the glandular abscesses. Dr. White, after two unsuccessful attempts to inoculate himself, caught the plague by the third, and died in three days; and Dr. Valli, in 1803, fell a victim to a similarly rash experiment." (P. 73.)

To reason correctly on the subject of inoculation, it is essential that the meaning of this term be exactly defined. In smallpox and cowpox, a virus is elaborated which contains, as it were, the essence of the disease, and which, being inserted beneath the cuticle of a healthy person, excites a local specific action that is afterwards communicated to the system. This is inoculation in the proper sense of the term; but it is conceivable in the instance of a highly contagious malady that the insertion of any fluid derived from the diseased body, or even the application of such fluid to the surface of the cuticle, might excite the disease in a healthy individual. This might also be called inoculation; but it is evidently not so in the same sense as in the former case: it is, in reality, an instance of simple contagion. Now with respect to plague, it is well known that even extraneous substances impregnated in the smallest degree with the fluids or exhalations of the diseased body will readily communicate the disorder: surely, then, there is no improbability in the supposition that a small quantity of purulent matter derived immediately from the body of a patient should impart the disease quite independently of its containing a specific virus elaborated from the general system like that of smallpox. Plague seems to have been much too hastily associated with the exanthemata, from which it differs in the following striking particulars: in all known exanthems the eruption has a uniform character, and is thrown upon the skin or some other extensive membranous surface, while in plague the character of the eruption is various, and its seat irregular; it consists of tumours in the glands, of carbuncles involving both the skin and the subjacent textures, of tubercles situated in the cellular membrane, and other affections of less constant occurrence. The carbuncles have as good a right to be considered a part of the supposed exanthematous eruption as the buboes; and, if so, the plague has a *double eruption*, therein differing from all other exanthematous diseases. Lastly, the pestilential buboes and carbuncles follow no regular course of maturation and decline; they frequently appear several times in succession; nor do they seem like the eruptions of the exanthemata to have any determinate relation to the symptoms or progress of the disorder.

Identity of Smallpox and Cowpox. When speaking of the recurrence of contagious diseases, Dr. Henry remarks, that "smallpox and cowpox act as safeguards against each other; or, when (failing this) the one occurs in a person who has passed through the other, the second in order of sequence, whether smallpox or cowpox, assumes a modified, and generally a much milder form. There can be little doubt, however, that those two diseases are essentially the same. We have no evidence that any one specific disease affords a security against any other which is distinguished from it by marked characters and a different succession of symptoms. Neither smallpox nor cowpox gives a durable protection against measles, hooping-cough, or scarlatina." We are somewhat surprised at the affirmation that there can be little doubt of the identity of smallpox and cowpox. We cannot perceive any valid reason for entertaining such a belief. The alleged results of Sonderland's experiments are indeed striking; but the repetition of these experiments in other quarters has afforded so little countenance to the conclusion he derived from them, that we may be allowed to doubt the accuracy of the statements, although without impugning the veracity of the narrator.

Among the theoretical objections to the identity of the two diseases, there is one which we do not recollect to have seen noticed, but which appears to us to have some force: it is this. On the supposition that smallpox and cowpox are essentially the same, the difference of the phenomena must be ascribed to a modification effected in the action of the same virus, by the respective peculiarities of constitution in the human subject and the cow: if, therefore, the virus could be obtained *as yet uninfluenced by the constitution of either of these animals*, it might reasonably be expected to produce cowpox in a cow and smallpox in a man. Now the disease called the grease in a third animal, the horse, affords the means of making the experiment: the grease is known to be capable of generating cowpox in the cow, and ought, by hypothesis, to generate smallpox in a man. Such, however, is not found to be the case: the grease produces nothing but *cowpox*, whether in man or in the cow. It is, however, useless to theorize on this subject: we are in want of further experiments; and it is by no means improbable that a very extensive series of inoculations with the virus of smallpox, cowpox, and the whole family of pustular and vesicular exanthems, in their more characteristic as well as in their modified forms, with a patient comparison of their effects on man and other animals, might lead to the correction of some erroneous views, and the establishment of some important facts, in pathology.

Fomites. The following is a judicious summary of our knowledge on this subject.

"It has been long known that dry porous bodies, when exposed to the atmosphere, increase in weight by absorbing aqueous vapour. In like manner, there can be no doubt that contagious vapours or emanations are absorbed by porous substances, and are again exhaled in an active state. Boyle remarked that 'amber, musk, and civet perfume some bodies, though not brought into contact with them, as the same determinate disease is communicable to sound persons, not only by the immediate contact of one who is infected, but without it.' Contagious emanations, thus imbibed by porous bodies, have received the name of *fomites*. They are capable of issuing forth with unabated, and, it is even asserted on good authority, augmented activity. It is probable, therefore, that they are emitted in a state of increased concentration, the porous body having imbibed those vapours, in preference to the elastic fluids which constitute the atmosphere. The propagation of contagious poisons, in the state of fomites, is illustrated by the following among numberless similar instances:—1. The contagion of the plague of 1665 was conveyed in a box of clothes from London to Eyam, a small village in Derbyshire, out of whose scanty population it carried off two hundred and fifty persons. 2. Smallpox infection has been transmitted from London to Liverpool, by means of new apparel made in a room where persons were sick of that malady. 3. Dr. Hildebrant introduced the poison of scarlatina into Podolia, a distance of several hundred miles, by a suit of clothes, which he had worn at Vienna while attending persons sick of that disease, and had laid by for several months. 4. Of the propagation of a fever of the typhoid character by fomites, Sir John Pringle has recorded a striking example. A number of old tents, which had been used as bedding by soldiers sick of low fever, were, on the disembarkation of the troops at Ghent, sent to be repaired. Twenty-three Flemish workmen were employed in the business, out of whom seventeen took the fever and died, though they had no personal communication with the troops.

"XXIII. It has not been ascertained how long fomites may retain their activity; but there is reason to believe that in articles closely packed they may remain unaltered for several years. Sennertus relates an instance in which, after a violent plague at the city of Breslaw, in 1542, the pestilential contagion imbibed by linen cloth which was kept fo ded up, issued forth fourteen years afterwards in another city, and gave rise to a plague, which caused great devastation. In Dr. Parr's *Medical Dictionary* (art. Contagion), a fact is stated, which, if well authenticated, would indicate a much longer period for the durability of the contagion of plague.

"XXIV. The subject of fomites is well worthy of further investigation. Hitherto we have acquired no information respecting the comparative powers of different porous bodies to absorb contagion. Technical distinctions into 'more or less susceptible articles' are, it is true, recognized by the quarantine laws; but they appear to be founded on loose analogies rather than on careful observations. 1. It is extremely probable that *different* porous bodies vary as to their powers of absorbing the same contagious emanation, as we know that they differ in their powers of imbibing a given elastic fluid. 2. In the same porous body, it is quite conceivable also, that the power of absorbing different contagions may vary with its states of dryness, temperature, mechanical aggregation, and other circumstances. A light and spongy material will probably be found a more active absorbent of contagion, than the same substance when rendered dense by packing or by manufacturing operations. 3. A low temperature of the porous body will probably cause it to absorb more contagion than an elevated one; the dryness of the solid being supposed equal in both cases. When once impregnated also, an increased temperature will probably act in disengaging fomities, just as odours lurk unperceived in a garment till the wearer enters a warm apartment. It is consistent with this opinion, that clothes, which have been in contact with persons suffering under typhus, sometimes infect those who wash them in hot water. 4. The distance from the source of contagious effluvia, at which porous bodies exert their absorbent power, is undetermined. There is probably a distance at which their elasticity may be so increased by dilution, as to be more than equivalent to the absorbent power of the solid. The more highly the atmosphere surrounding the sick is charged with contagious effluvia, the more abundantly, may it be expected, that those effluvia will be absorbed by solids. 5. The colours of porous bodies have been shown, by the experiments of Dr. Stark, to exert a decided influence over their absorption of odours, the dark colours being most efficient. He has suggested, therefore, by a fair analogy, that colour may modify also the absorption of contagious effluvia.

"XXV. In several well authenticated instances, persons conveying fomites with injurious and even fatal effects to others, have themselves escaped infection. Prisoners discharged in their usual health from Newgate, at the time when that jail was the seat of a contagious fever, have infected the keepers of shops and public-houses in the neighbourhood. The same consequences followed also the liberation of debtors from the jail at Gloucester. In the memorable instance, too, already cited, the criminals who, by the fomites lurking in their clothes, spread so fatal a pestilence through the court of assize, were in their ordinary state of health. Previous ablution of their bodies, and the putting on clean and uninfected clothing, would doubtless have prevented that extensive disaster." (P. 79.)

The consideration of fomites may assist in the solution of a question which has, we think, been rather superfluously agitated, —namely, that of the possibility of infection from dead bodies. Let us suppose the case of a person just dead of a highly contagious disorder. No more of the contagious miasm can be formed, because its formation is doubtless the result of disordered vital actions; but are there no *fomites* about this body which may absorb that which has already been formed? Is the cuticle a less porous body than a piece of cloth; or is the hair of a dead man a worse fomes than a bunch of wool? If not, we do not see how the capacity of the dead body to convey contagion can be disputed, unless on the supposition that the body, when dead, has an active power of neutralizing the miasmata which it evolved when living; an opinion not likely to be maintained.

If numerous instances be adduced where contact with the dead body has failed to communicate disease, this merely shows, what many other facts tend to demonstrate, that contagion is not so universally active as popular apprehension would imply; and the instances where contact with the dead body has been followed by no bad effects might be confronted with a much greater number where similar impunity has attended contact with the living.

II. *Report on Animal Physiology; comprising a Review of the Progress and State of Theory, and of our Information respecting the Blood and the Powers which circulate it.* By WILLIAM CLARK, M.D. F.R.C, F.G.S. F C. P.S., late Fellow of Trinity College, and Professor of Anatomy in the University of Cambridge.

This paper contains a philosophical survey of the progress of physiological theory, and a condensed view of the improvements which have been effected of late years in some special departments of the science. We shall take the first part alone as the basis of the present notice, since, with respect to the rest, any attempt to epitomize what is itself an abstract would afford little more than a bare enumeration of facts, uninteresting from their want of connexion. In tracing a slight outline of the progress of general physiology, we shall use the licence of modern critics, to make ourselves in a great measure independent of our author; not failing, however, to draw copiously from the excellent materials he has brought together. We may add, that our observations will have less reference to the chronological order of events, than to their influence on the progress of science; and that we shall advert to the discoveries and opinions of individuals only in as far as they bear upon important generalizations.

Physiology has from its commencement been making a kind of double progress. Certain doctrines have arisen from time to time, which, though held in various degrees of estimation at different periods, and variously modified by the advances of knowledge, have never since their origin been entirely lost sight of, but, acquiring increased influence after each season of temporary neglect, have descended to our own times with every prospect of permanence. Other doctrines, again, originating in the partial bias of men's minds, or the defective state of their knowledge at particular periods, have enjoyed only a fitful ascendency; and, though they may have been recalled more than once after their first dismission, they have not returned with augmented strength; they have made no real progress, and are in effect just as far from being verified now as they ever were: but such hypotheses, however erroneous and transitory, have not been without their use, since they have acted as stimulants to industry, and given rise to an immense accumulation of facts, not in themselves the less valuable from having been made subservient to fallacious views, and which, in the gradual progress of science, become involved in just trains of reasoning, and aid in the establishment of true theories. The germ of some of the most important doctrines of physiology is to be found in the writings of the Greeks.

The physiology of Hippocrates was encumbered with the speculations of the Pythagorean school, in conformity with which he taught that the four elements, variously combined, formed the four cardinal humours, and these again the solids and fluids of the animal body; but he inculcated two grand truths, of which one has been very generally received by the best physiologists of every succeeding age; and the other, though not sufficiently recognized even to the present time, will, in all probability, exert an extensive influence on the future progress of the science. The father of medicine perceived clearly that the properties of inert matter would not account for the phænomena of life; he therefore asserted the existence of a power in the living body, which he calls φυσις, *nature.* This he represents as acting instinctively: Ανευρισκει ἡ φυσις αυτη ἑωυτη τας εφοδους ουκ εκ διανοιης. *Nature finds out ways for herself withont counsel.* Απαιδευτος ἡ φυσις εουσα και ου μαθουσα τα δεοντα ποιει. *Nature, untaught and without learning, does what is needful. Epidem.*, lib. vi. sect. 5, Ed. Föes.

Hippocrates in effect recognized a vital principle; but he further saw, what it is much to be regretted that so many succeeding physiologists should have lost sight of, that the existence of a living body is one of constant relation to surrounding things; that the vital principle is not self-acting, but a controlling power which regulates the actions excited by the operation of extraneous causes: hence we find throughout his writings the evidences of a constant attention to the effects produced on the animal system by air, moisture, heat, cold, food; in short, by all the external conditions of life which the infant state of natural science at that period offered to his observation.

To Aristotle the science is indebted to an extent which can be appreciated only by those who have made a study of his writings. He cultivated comparative anatomy on a very ample scale, and in a more immediate and comprehensive relation to general physiology than any other enquirer till the time of Hunter. He may thus be said to have instituted the true method of studying the vital functions, since there is scarcely an important fact in physiology which has not been either suggested by comparative anatomy or finally established by an appeal to it.

Aristotle laid the foundation of embryology, by a series of observations on the formation of the chick;* he moreover gave considerable attention to the modifications undergone by each of the principal organs of the body, as adapted to the same function in different classes of animals; and, with reference to the lower tribes, noticed the *substitution* of less perfect organs for the performance of similar functions,* so that one might feel inclined to forgive an enthusiastic admirer of the Stagyrite, were he to claim for him the merit of having traced the outline of that great theory of progressive development which has given such an impulse to physiology in the present day. .

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* Hist. Animalium, lib. vi. c. 2, 3

Aristotle divided the vital powers into the *nutritive* (ϑρεπτικον), *sensitive* (αισθητικον), *appetitive* (ορεκτικον), *locomotive* (κινητικον κατα τοπον), and *cogitative* (διανοητικον).† He referred the first four of these to a kind of soul, common to man, animals, and plants; but regarded the reasoning faculty as appertaining to another kind of soul, capable of a separate and independent existence.‡

This simple and natural classification, when cleared of the logical and metaphysical subtleties in which Aristotle involved it, will be found little at variance with the physiological notions of the present day. The soul common to all organized beings appears to be no other than the vital principle; the nutritive faculty corresponds with organic life; and the combined, sensitive, appetitive, and motive faculties with animal life: in separating the phenomena of the mind altogether from those of the body, and attributing them to a distinct incorporeal being, Aristotle supports an opinion which has always had the ablest, though not perhaps the most numerous, reasoners on its side, and which, notwithstanding the occasional prevalence of different forms of materialism, is, we think, the one most likely to be finally adopted. It is singular that this philosopher, who instituted a very careful and instructive comparison between the mental faculties of brutes and those of man, should have referred the former to the same source as the common functions of life, while he considered the latter as of a nature altogether distinct. It might have been thought that attention to this subject would have convinced so acute a reasoner that the intellectual powers of the inferior animals differ from those of man, not in kind, but in degree.

Galen, perceiving Aristotle's error in associating the phænomena of consciousness and intelligence with those of mere automatic life, attempted a new classification of the vital powers or faculties: these he subdivided into the *natural*, which is centred in the liver, and presides over nutrition, growth, and generation; the *vital*, which has its citadel in the heart, and communicates life and heat, through the arteries, to all parts of the frame; the *animal*, which is seated in the brain, producing the phænomena of the mind, causing sensation and motion by means of the nerves, and presiding over all the other functions: three kinds of spirits, the natural, animal, and vital, formed by a sort of exhalation from the blood, minister to the respective faculties, and convey their influence through the appropriate channels. Besides the three principal faculties, Galen admitted the existence of certain subordinate faculties, which presided over particular organs.

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* The four books De Partibus Animalium, *passim*.

† De Anima, lib. ii. c. 3. ‡ Id. lib. ii. c. 2.

The chief merit of this arrangement is, that it recognizes the distinction between those functions which are essential to the existence of an animal, and those which are only necessary to maintain its conscious relations with external things, and admit of occasional suspension without injury to life.

In his general doctrines, Galen blended the metaphysics of Plato and the logic and natural philosophy of Aristotle, with the physiological principles laid down by Hippocrates; agreeing with the last-mentioned philosopher in deriving the cardinal humours and the various component parts of the animal frame, from the various admixture of the four primary elements. He believed the vegetative or organic faculties to be under the guidance of *nature*, but referred the voluntary to the *soul*. The powerful genius of Galen, aided by a most extensive acquaintance with the philosophy of his age, expanded the science of medicine to an amazing extent, and his vigorous conception brought him to the verge of several important physiological discoveries, which, however, the state of science at that time rendered unattainable. We may, in passing, allude to one point, which has been the subject of some dispute. Galen very decidedly maintained the distinction between the nerves of sensation and those of motion, which had indeed been previously hinted at by Aretæus.* Galen believed that the nerves of sensation were derived from the anterior part of the encephalon, and those of motion from the posterior part, and from the spinal cord: but his idea of the difference between them was purely mechanical: he thought that the former class of nerves were adapted to sensation from their being *soft*, and the latter to motion from their being *hard*. That he had no conception of two distinct kinds of nervous power, resident in different portions of the central mass, is evident from his maintaining that a soft sensatory nerve may become condensed at some part of its course, and thus be converted into a nerve of motion.†

We need not make particular allusion to the Greek writers who succeeded Galen, to those of the Arabian school, or to those who lived soon after the revival of letters in Europe. As far as physiology is concerned, they were all mere copyists: the commanding spirit of Galen overawed the minds of men through many ages of declining science, during which physiologists relinquished all attempts at original observation, and confined themselves to expounding and commenting upon the doctrines of the ancients.

Early in the sixteenth century, the majestic dream of antiquity was broken in upon by the turbulence of the chemists, who, headed by Paracelsus, swore everlasting enmity to the sage of Pergamos, and strove to supplant his specious fallacies by their own less attractive delusions.

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* De Causis et Signis Diuturnorum Morborum, lib. i. c. 8.

† De Usu Partium, lib. ix, c. 14.

In the seventeenth century, a new era dawned upon the science. Harvey's discovery of the circulation of the blood opened a boundless field of enquiry, in which physiologists for some time lost themselves, and wandered in devious and unprofitable paths.

The chemical researches of Hooke and Boyle, and the atomic theory of Descartes, became the basis of those doctrines professed by the chemical and mathematical schools, which now for the first time attracted the general attention of the scientific world.

The chemical sect of physiologists had been founded by Paracelsus in the preceding century, but his peculiar tenets, in which some truth and much ingenuity were blended with a conceit and fanaticism bordering on insanity, sunk into neglect very soon after his death. The school of chemical physicians, however, did not become extinct, and even included in the number of its disciples some individuals eminent for learning and science, among whom Van Helmont deserves to be mentioned.

In the seventeenth century, the improvements in chemistry led to a more plausible application of this science to physiology. Sylvius may be considered as the father of the modern chemical physiology, which derived support from the abilities of Willis, John Mayow, Croone, and Helvetius; but was opposed and confuted by Hoffmann, Boerhaave, and Pitcairn.

Although the views of the chemical physiologists were purely hypothetical, and for the most part chimerical, it is not to be forgotten that they paved the way for the study of animal chemistry: and that the writings of Mayow contain the first hint of the true theory of respiration, and of that solution of the phenomena of animal heat which is most generally received in the present day.

"The mathematical school of physiology," says Dr. Clark, "gained a better reception. Its doctrines, recommended by the prevalence of the atomic theory of Descartes, gave the same direction to physiology and medicine with that in which science was principally advancing under the auspices of the Florentine Academy. The philosophy of Descartes appeared peculiarly applicable to such investigations, since no reason apparently could be assigned which should render that law inapplicable to organic bodies which referred all changes in matter generally to the figure and motion of the ultimate particles of which they were composed. Hence we find the followers of Descartes representing in their works, the mathematical forms of the ultimate particles, of which they supposed the various organs to be composed, as figures for the application of mathematical reasoning. The most distinguished disciple of this school was Borelli. He united to all the anatomical information of the day a depth of mathematical knowledge which enabled him, in appearance, to apply its reasonings and its results to explain the action of the organic machine. Thus, he submitted muscular motion to calculation on the principle of the lever; explained the action of the heart and the motion of the blood upon hydraulic principles; and accounted for the secretions from the various diameters of the vessels. The proximate cause of muscular motion he asserted to be the rush of nervous fluid from the brain upon the muscular fibre. Bellini and Baglivi espoused the same theory, and extended its application by their writings; but, as if internally aware of its insufficiency, and proving that they merely reposed in it as that which was least objectionable, they laboured to separate the theory from the practice of medicine. Thus Baglivi was in practice a follower of Hippocrates and of Sydenham. John Bernouilli was a celebrated disciple of this school. He considered the elementary geometry of the Italians insufficient in its application to the animal body, inasmuch as this represents neither line nor plane either in itself or in the ultimate particles into which it can be resolved. Hence he had recourse to the calculus lately invented by Newton and Leibnitz and the theory of curves. His theory of muscular motion gained great celebrity, as well as his application of the analysis to determine the decrement of the body in consequence of the various transpirations and secretions. Another branch of the mathematical school was founded on the Newtonian theory of attraction, and had for its supporters in this country Keill, the Robinsons, Wintringham, and Meade." (P. 100.)

The mathematical doctrine had, if possible, less foundation in nature than the chemical: it led, however, to much minute dissection and numerous microscopical examinations of the intimate structure of parts; so that, in as far as physiology has received illustration from minute anatomy, it may be considered as indirectly indebted to the mathematical school.

A general recognition of the insufficiency of the hypotheses just alluded to gave origin to a new school of physiology, which has been styled the *dynamic*. Before entering on the consideration of this, however, we may remark that, while the attention of many physiologists had been distracted by futile and short-sighted speculations, there were some who profited by the grand example of Harvey, and devoted themselves to the diligent cultivation of anatomy, with an unprejudiced view to the elucidation of functions. The connexions of the nerves, in particular, were carefully unravelled by Willis and Vieussens; and to the former we owe the first correct view of some of the more remarkable phænomena of sympathy, which had previously been attributed to the continuity of membranes, and other causes inadequate to their production. Willis attributed these phænomena to the agency of the nerves, but erred in supposing that they were referrible to their direct communication. The views of Willis, however, (which were also adopted by Vieussens,) prepared the way for the more accurate opinions of Whytt, who shewed satisfactorily that nervous sympathies take place through the intervention of the great centres of that system; a most important physiological truth, which he has illustrated more fully, and with greater felicity, than any succeeding writer, notwithstanding the metaphysical hypothesis with which he most unnecessarily embarrassed his reasoning.

The dynamic doctrine is usually attributed to Stahl, according to whom the soul is the prime agent in the formation of the body, and the maintenance of all its functions.

A similar opinion had been previously entertained by Van Helmont, who, though of the chemical school, was not the less a vitalist.

The *anima* of Stahl is nearly related to the *Archeus* of Van Helmont; and the latter, again, derived the name and some of the attributes of his vital agent from Paracelsus. It has been thought by some more probable that Stahl borrowed his notion from Hippocrates than from Van Helmont; but the fact of Stahl's being himself enthusiastically addicted to chemistry renders it nearly certain that he must have been familiar with the writings of Van Helmont. Stahl regarded chemistry, mathematics, and anatomy, as equally insufficient to explain the causes of the vital phenomena. According to him, the soul has no particular seat, but is diffused through the whole frame, endowing every organ and texture with its peculiar vital properties, perceiving in the organs of sense, and causing contraction in the muscles, independently of the influence of the brain. The main error of his system consists in the absurdity of an *unconscious intelligence*,—in supposing that the soul can operate and contrive without being aware of it.

In comparing the opinion of Stahl with those of Hippocrates and Hunter, it might at first sight appear that there was little difference among them, except in the name applied to the vital energy: there is, however, this essential difference,—that Stahl considers the *anima* as a distinct being; whereas, Hippocrates and Hunter employ their respective terms, φυσις and *vital principle*, merely as the general expression of a number of facts. Stahl's doctrine is based on a false assumption in metaphysics, while Hippocrates and Hunter were content with maintaining that organized bodies present peculiar phænomena which must necessarily have a peculiar cause, without pretending to determine the nature of that cause.

The hypothesis of Stahl received more or less countenance from the writings of Bryan Robinson, Mead, Hartley, Sauvages, Bonnet, and others, who made a partial and restricted use of it; but it found its ablest supporter in Whytt, who fully adopted the tenet that the soul is the cause of all the vital motions. These he divided into *natural*, *involuntary*, and *voluntary*. The natural motions are those which are sustained by the moderate and constant supply of nervous power, uninfluenced by the will or any other stimulus: such are the tension of the sphincters and the general tone of parts;—the involuntary are those excited by stimuli applied to the nerves, in all of which the soul acts automatically and of necessity, but without consciousness;—the voluntary motions are the same as those so designated by other authors. With respect to the first class, it may be observed that Whytt, in common with too many other physiologists, lost sight of the great principle that the state of the living body is one of constant relation to external nature; that numerous extraneous causes are continually operating upon it; and that, consequently, the class of vital motions independent of stimuli is, in all probability, purely imaginary. Again, with respect to the class of involuntary motions, or those in which the soul intervenes without consciousness, if Whytt meant that the soul, even at the moment of its intervention, is actually unconscious of its own operation, the idea is manifestly absurd; since it is impossible to conceive any operation of an intelligent being but as some *mode* of consciousness: but if he meant (as he probably did,) that the action of the soul is so slight and transitory as to leave no trace in the memory even a moment after, what evidence can we have that it has taken place? James Johnstone, with much greater show of reason, referred the involuntary motions to the ganglia of the sympathetic nerve, which he regarded as so many minor nervous centres, sustaining the involuntary functions independently of any immediate connexion with the brain; whence the continuance of these functions when the influence of the brain is suspended by sleep or disease. This opinion, which had been previously hinted at by Winslow and Le Cat, gave rise to the hypothesis which regards the ganglial nerves as a separate system, presiding over the functions of organic life; an hypothesis supported by Bichat and Reil, and by no means subverted, though somewhat weakened, by the experiments of Le Gallois, Wilson Philip, and Magendie.

The chemical, mathematical, and dynamic theories were tempered and combined by Hoffmann and Boerhaave, who were rather judicious critics than original thinkers on physiology. They insisted upon the controlling influence of the nervous system over all the organic functions, whether performed chemically or mechanically. They thus substituted the nervous energy for the anima of Stahl, forgetful of those lower animals in which the existence of nervous matter, though probable, is hypothetical; and of plants, in which it does not exist at all, but both of which are nevertheless endowed with life.

We have now to consider the opinions of Haller, the following judicious review of which we quote from Dr. Clark.

"The great object which that eminent person endeavoured to achieve, was to discover, experimentally, the conditions and the laws which govern those vital phænomena which the assumption neither of mechanical nor of chemical forces had been able to explain, and thus to render physiology as certain as other physical sciences. For this purpose he excluded those metaphysical subtleties by which his predecessors had so frequently veiled ignorance; excluded also mathematical and chemical science in all cases in which it was impossible to ascertain the elements upon which their application could be founded. He was willing, as he himself says, to confess himself ignorant of the manner in which the soul and body are united, and was content to proceed no further than those discoverable laws which the Creator has himself prescribed, without inventing others unwarranted by experience. On this principle he instituted innumerable experiments to discover and illustrate the properties of the vital powers. He proved the existence of a property in muscle, to which he restricted the term *irritability*, which is only called into action by means of stimuli, which affects a much greater vivacity of motion than mere elasticity (a property of dead matter), the motions also consisting in alternate oscillations, with contraction, swelling, and wrinkling of the fibre, followed by extension, relaxation, and elongation of the same. He further attributed to the muscles a *nervous power*, distributed to them from the brain by means of the nerves, as a necessary condition of their irritability, but which entirely differs from it. He concluded from his experiments, as detailed in his earlier works, that the following parts are destitute of irritability and nervous power: periosteum, peritoneum, pleura, ligament, tendon, articular capsules, the cornea, parenchyma of the viscera. In these tissues he admitted a force analogous to elasticity, inherent in their organic texture, which solicits them to contract slowly when divided, when exposed to cold, &c., and which only abandons them when entirely disorganized. He proved that sensibility is inherent in the nerves, but that they are destitute of irritability. He denied that irritability could be imparted to the muscles by the nerves, because, seeing that a nerve, on being stimulated, may excite motion in the muscle to which it passes, but offers not the slightest motion itself, it is impossible to suppose they should be the source of that to others which they never possessed themselves; and, more particularly, because he perceived that the excitement of muscles through nerves is a phænomenon not true of all, but only of certain muscles.

"He proved, universally, that irritability resides in all parts that have muscular fibre; that this power differs in intensity and permanence in various parts; that these qualities are most observable in the heart, more in the left ventricle than the right; that next in order come the intestines, the diaphragm, the voluntary muscles. From reiterated experiments he concluded that the heart and other involuntary muscles are not excited to contract by stimulating the nerves with which they are supplied, but that they require specific stimuli: thus, that the blood is to the heart what the will is to the voluntary muscles.

"In this way Haller restricted the vital powers to two,—sensibility and irritability; the one exhibited in the brain and nerves, the other in muscular fibre. His doctrine was vehemently opposed by Whytt, De Haen, Verschuir; and strenuously defended by himself, by Bonnet, and by Fontana. It was seen that many parts in the animal body to which neither irritability nor sensibility, in Haller's sense, could be extended, were not the less alive. Thus during the numerous controversies which arose, errors on each side were detected; materials for more extended views were accumulated; experiments were infinitely multiplied and eagerly criticised; the excitability of various tissues, to which Haller had denied that quality, because he had not called it into action by an appropriate stimulus, was established on the one hand, and on the other the mistake of confounding nervous influence with sensibility was made apparent. Thus the more probable it became that irritability and innervation are separate powers, so did it follow the more necessarily that every different part should have its own excitability and its own degree of nervous power, and hence its own peculiar mode of life,—an opinion announced by Bordeu, Barthez, Blumenbach. Independently of these expressions of vital energy in the various tissues, these physiologists admitted a fundamental power, which they termed *vitality*, or *vis vitæ*, of which the different degrees of excitability and sensibility were considered merely as modes, according to the organs in which the vital energy operated. But the analogies thus assumed between the phænomena were not established by any proof; the modifications of the original power were not accounted for; and this theory, apparently philosophic, has no firm foundation when its partisans would represent vitality, or oxygen, or galvanism, as a proximate cause of all the phænomena, residing in living matter as gravity does in dead." (P. 103.)

Haller, then, established the general proposition that peculiar modifications of vital power are connected with, or inherent in, particular tissues; a principle of the greatest utility, as tending to obviate those attempts at personifying the vital energy which have always distracted the attention of physiologists from the actual phenomena of life.

The study of General Anatomy, commenced by Andrew Bonn, and raised to importance by Bichat, extended the materials for the application of Haller's views. The researches of Bichat, however, have not hitherto exerted the influence on physiology which might have been expected from so fine a generalization. This has probably arisen from two circumstances: first, that the doctrine of the tissues has been incautiously applied, in some instances by Bichat himself, and in others by his successors; mere continuity of surface having been too hastily received as evidence of similar vital endowments, and a number of mixed tissues thus artificially combined into one, supposed to be simple and homogeneous: the mucous membranes may be adduced as an example. Secondly, that the anatomical part of the enquiry has not yet been pushed to the limits which it is evidently capable of attaining:—to this point we shall presently recur. A few years previous to the appearance of Bichat's work on general anatomy, John Hunter had promulgated his grand doctrine of the life of the blood,* which regards this fluid as endowed with vitality, as well as the solid textures: perhaps, indeed, as the original source from which every modification of vital power is derived. For some time the experiments and reasoning of Hunter appear not to have induced very general conviction: further research and reflection have, however, dispelled the doubts of physiologists, and the vitality of the blood is now almost universally recognized: many even suppose that its red particles are capable of spontaneous motion, an opinion which is probably erroneous.

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* In attributing this doctrine to Hunter, we by no means intend to assert that he was the first who taught that the blood was endowed with life, though the limited extent of his own reading induced him to believe so. This opinion was strongly, nay enthusiastically, maintained by Harvey, who has, however, fallen into so many contradictions and absurdities with regard to it, as to divest it of all consistency and applicability: thus, at one time he considers the blood as the instrument of the soul, and at another as the soul itself; sometimes the soul is merely an act of the blood, at others it is the *calidum innatum*; and at others, again, the soul is held to be pre-existent, and to generate both the blood and the calidum innatum. Hunter's doctrine, on the contrary, is simple and intelligible: he merely contends that the blood is endowed with vitality as well as the solid parts, and supports his position by experiments and observations, which, if maturely considered, leave little room for doubt upon the subject.

Physiology had now advanced nearly as far as the paths of enquiry hitherto pursued could be expected to lead it; but, as human knowledge is destined to be progressive, new sources of information quickly suggest themselves when the old ones are exhausted. As yet the vital functions had been considered in their perfect state; the materials for a different method of investigation had, however, long been accumulating, and it now seems to have occurred to physiologists that the facts of embryology might throw light on these functions, by pointing out their simplest, that is, their most essential conditions, and tracing the gradations by which they arrive at greater complexity. Hence arose the theory of *development,* which, originally hinted at by Harvey, if not by Aristotle, has grown, under the hands of Hunter, Wolff, Prevost and Dumas, Meckel, Tiedemann, Serres, St. Hilaire, and Von Baer, into a doctrine of the highest interest and importance.

Dr. Clark has given an admirable view of this doctrine, and of the reasoning by which Professor Tiedemann has connected the development of the living organism with the *assimilative process.*

"The earliest examinations that can be made of plants or of animals present them as consisting of a minute globule of fluid, or a minute disc of slightly albuminous matter, i. e. under aspects not distinguishable in different future genera or species, as to properties or forms of their matter, by any tests which we possess. In the near neighbourhood of the disc is placed, in animals, a quantity of nutritive substance, by means of which it is destined to work. The effects, when produced, are definite for each species: but none occur except under certain conditions. These conditions are, a due degree of moisture, of air, and of warmth. When they are supplied, the disc is capable of being affected by the matter in its neighbourhood. It is *excited,* and it *reacts.* The consequence of the reaction is a gradual expansion of the disc to surround the nutrient matter; a separation of it into different superposed portions, which come into view; and a gradual appropriation of the nutrient matter. Upon the external portion of the disc, the first trace of the nervous system is observed; upon the internal portion, that of the intestinal canal; intermediate between them, that of the vascular system. Though at first simple, these objects have still a certain magnitude, and the later more complex formations are seen to arise from them as if by vegetation. 'The first trace of the nervous system is not merely that of the spinal cord or of the ganglionic string, but is the potential whole of that system, of the brain and all its appendages. The first trace of the abdominal canal is not merely the rudiment of that canal, but of the whole glandular apparatus also, which may be seen gradually to spring from it.' And thus is the observed process of development altogether contradictory of the theory of Haller and of Bonnet, which represents each organ as absolutely existing in the germ, though in a miniature form. That the power which effects these changes, and thus controls the disposition of organic molecules, resides in the disc, is ascertained from the facts, that ova belonging to species the most different are all developed, according to their kinds, under similar external conditions, and that ova of the same species are true to their kinds under conditions which are not absolutely the same for any two individuals. If we call this power *vitality* with modern writers, or the *anima* with Stahl, these words can teach us nothing physiologically, unless we ascertain the law by which it operates: however we may see that the final cause of its operation is plainly in every case the production of those numerous bodies, definite with respect to families, genera, and species, which it developes for its own manifestations in each. Our eyes inform us that these bodies arise by means of the assimilative process, and that the original power exhibits its faculties by means of the organs which it has produced through this process. Our idea then of the vital power is this,—that it is connected with the matter of the germ in the act of its formation, and resides in it as the potential whole, or sufficient cause, of the entire future organism; that in consequence of the excitability of the organic matter of the germ, imparted to it in the same act of its formation, the expansion of the germ into portions or members occurs by the visible process of assimilation or nutrition, each portion thus acquiring its own excitability and its own reactive energy, which are but partial manifestations of the original power; and that in proportion as each part is developed, new internal conditions are introduced, in consequence of the new formation, which affect all that previously existed, by modifying the assimilative process in all. The phases of this process are strictly defined for each species, and the subsidiary means necessary for the purposed effect—as in the various forms of the respiratory organ in the fœtal state of the same individual to moderate the condition of external air, are amongst the most beautiful instances of provision for a definite end.

"This formative act, this process of assimilation or nutrition, which is thus performed by animals and plants, and has a relation not only to the present, but the future also, appears to be the determination of a power acting according to Reason; and hence it must have been that Stahl referred it to the rational soul. But, seeing that reason cannot exist without consciousness, a faculty which manifests itself only by means of the brain, a late product of this very power by the act of assimilation,—seeing also that the effect may be modified, within limits, (as in cases of monstrosity,) when the conditions are altered, we rather conclude with Harvey that it proceeds from a power acting according to fixed laws. 'Vegetativæ operationes potius videntur arte, electione et providentiâ institui, quam animæ rationalis mentisve actiones; idque etiam in homine perfectissimo.'

"A peculiar matter is necessary for the manifestation of vital phænomena: this matter is called *organic*. It is not the cause of life, but rather is its act, a production by means of the assimilative process, for the exemplification of the allotted faculties. The faculty is imperfectly manifested if the organ be imperfectly formed: the organ and its energy both vary with variations in the nutritive process.

"Hence those subordinate expressions of vital force, called *nervous power*, *force of secretion*, &c., cannot be considered as distinct and independent powers. They are produced, or evidenced, with their organs, by the force of assimilation, and are maintained by the same. They depend upon it for their manifestation and their due support.

"Vital power imparted to organic matter (which is itself the product of the living power of the parents), and exemplifying its faculties by means of the organs which it has developed through the force of nutrition, seems to be the last step to which observation and induction has hitherto led us. The induction is verified by observation. If the assimilative process be altered in any organ, the expression of excitability and of vital reaction peculiar to that organ is altered in the same degree.

"There are then in living bodies as many species of excitability and as many modes of reaction as there are tissues. Every one of these has its own mode of both, which is called into action by its own appropriate stimuli. 'Whatever these stimuli may be,—whether external, as air, light, warmth, food; or internal stimuli, the blood, nervous influence, the secreted humours,—each organ reacts in its own peculiar manner: a manner which supposes a peculiar organic power imparted to it in the act of its formation by the process of nutrition, and sustained by the same.' 'The stimulus may be that of a chemical, or mechanical, or organic substance; the reaction, however, is always vital, and indicates the existence of an organic force, of which it is the effect. The physical properties of the one are in some sort in a constant conflict with the vital properties of the other, and living bodies only preserve their character of life so long as they are able to resist the physical impression. When it is said that organic movements are occasioned by incitations, we do not admit that they are the immediate effects of the mechanical or chemical impressions, but assert that they are the effects of powers which the external impression, be it mechanical or be it chemical, has thus solicited to act.' (P. 106.)

It may be added, that the younger St. Hilaire has extended the doctrine of development by some ingenious ideas as to the expansion of some particular organs and systems, which follow a progress of their own, in some degree independent of the entire organism, but having certain determinate relations to its growth. The most remarkable example is to be found in the reproductive system, from the development of which arise the phenomena of puberty.

The study of comparative anatomy, of which Aristotle was the founder, and which John Hunter and Cuvier have revived on so magnificent a scale, illustrates, throughout living nature, a series of developments analogous, though not parallel, to those of the individual organism. This analogy has been strained by some imaginative physiologists into nothing less than the hypothesis that the fœtus of the higher animals passes in succession through all those states of organization in which the inferior tribes permanently exist; the human fœtus thus presenting a kind of historical summary of the progress of life and organization, from the beginning of all things; an hypothesis in which it is too evident that the generalization has preceded the full investigation of the facts, since these, though tortured into a partial conformity in some instances, offer a decided and conclusive opposition in others.

Comparative anatomy, when aided by geology, becomes retrospective, and exhibits a vast series of living things adapted to the condition of the earth's surface at the several periods of their existence, and gradually advancing from simpler to more complex forms of organization: hence some physiologists have surmised that all the varieties of organic structure may be mere modifications of a simple and primary form; an hypothesis commending itself to the imagination by the grandeur of a conception which regards the organic kingdom as one colossal system of development, wherein the earliest form of life is the embryo, and the human frame its full evolution. On this subject Dr. Clark has the following just observation:

> "The undoubted fact that existing species have been perpetuated unchanged for several thousands of years, would have rendered such an opinion in the highest degree improbable, but for the observations relative to the apparently spontaneous production of animals and of plants from organic matter in solution—the apparent changes of species from simpler to more complex under favourable external circumstances—and the interchange of animal and vegetable form. If the facts were really thus, then might the objection to the hypothesis of metamorphosis founded on the permanence of existing forms be encountered. It might be averred that, notwithstanding our ignorance of the means, the necessary conditions for such successive changes may have been supplied in the earlier periods of the world, at epochs so far removed, that the few thousands of years which have passed away since the appearance of man upon the globe bear no proportion to their immense distance, and only show that the rate according to which the conditions of change are produced is a very slow one." (P. 110.)

The belief in equivocal generation, universally adopted by the ancients, was thrown into discredit by the experiments of Redi and Valisnieri; it derived new support from those of Tuberville Needham, Müller, and Wrisberg; it was controverted by Spallanzani, and since his time has been the subject of divided opinions. Priestley observed that the green matter produced in organic infusions by exposure to light was at first a mass of animalcules; that it was then resolved into green globules, which concreted into confervæ; and lastly, after the solution of these, that it was again converted into infusory animals and vegetables. The organic particles thus appeared common to animals and vegetables, entering into the formation of either according to circumstances, and retaining their own independent vitality when the organisms they had formed were dissolved. These observations have been confirmed by Ingenhouz and Treviranus; but the recent researches of Ehrenberg are opposed both to the spontaneous origin of infusory animals and the convertibility of animal and vegetable life. The two points, therefore, on which the hypothesis of development from one primary form mainly depends, are still disputed: the hypothesis, however, though on the whole improbable, deserves to be kept in view.

Comparative anatomy, like other great sources of physiological truth, must be expected, in the earlier periods of its application, to give rise to some chimerical views; but, when placed in its true relations to the science of life, by the exercise of a cautious philosophy, is likely not only to afford the most ample materials for the investigation of the vital phenomena, but the most effectual safeguard against partial views and hasty conclusions. It must henceforth be considered as the grand basis of physiology: human anatomy has long been acknowledged as such; comparative anatomy is merely its extension, on which a larger and more durable superstructure is to be reared.

The doctrine of peculiar vital powers resident in particular textures has been applied to the nervous system only of late years: indeed, the apparent homogeneity of the nervous substance afforded little ground for suspecting a difference of intimate organization and of vital power in the several parts which compose this system.

Bichat recognized two nervous tissues, appropriated respectively to animal and organic life; but it is to Sir C. Bell that physiology is indebted for the idea that each variety of nervous power has its origin in some defined portion of the central mass; and his own researches, with others to which they have given rise, have established those important facts which are too familiar to require explanation here. The separate functions of the anterior and posterior columns of the spinal cord are now universally admitted, and Sir C. Bell's views of the respiratory system of nerves, though less evidently demonstrated, are pretty generally received by physiologists. An attempt has been made by Dr. W. Philip, (though, as we think, very unsuccessfully,) to prove that respiration is a purely voluntary function. This eminent physiologist seems here to have fallen into the same error as Whytt; he has made his hypothesis hinge on a point in metaphysics that can never be settled.

The relation of the nervous to the vascular system has received illustration from the experiments of Le Gallois, W. Philip, Flourens, Marshall Hall, and others. The most important conclusions to be derived from these researches are thus luminously stated by Dr. Clark.

"Haller, from observing that the heart continues to beat for a considerable time even when removed from the body; and that its contractions, in the body, may be affected by the direct application of mechanical and chemical stimuli to its fibres, whilst he could not influence them by irritation of the cardiac nerves, concluded that its power of contraction is inherent, and totally independent of the nervous system. His theory was afterwards fortified by the dissections of Sœmmerring and Behrends, which appeared to show that the cardiac nerves are distributed to the vessels of the heart alone. And even after Fowler, Humboldt, and others had stated that the heart may be stimulated by galvanizing its nerves, and Scarpa had demonstrated that these are distributed to its substance as in other muscles, Haller's theory, though vehemently opposed at first, came to be very generally received. It, however, met a formidable opponent in Le Gallois, who published, in 1812, an essay, containing results of numerous experiments, from which it appeared that the heart's power is altogether derived from the spinal cord. He found, that if a rabbit be decapitated, the heart's action is continued, artificial respiration being performed; that if a portion of the cord be destroyed, as in the lumbar region, the heart is unable to support the circulation, in a rabbit twenty days old, longer than four minutes, whilst it is continued in one two days old; and that the destruction of the cervical and dorsal portions of the cord are still more suddenly fatal to the heart's action. He observed, on destroying successive portions of the cord, that even when the circulation is suddenly arrested, life ceases, on the instant, only in those parts which derive their nerves from that portion of the cord which has been destroyed, continuing for a time in the rest of the body; that this time is greater the nearer the animal is to the epoch of its birth, and is determinate for each species. He concluded that those parts which die last, on partial mutilation of the cord, die because the power of the heart has been so much weakened that the circulation through the entire arteries cannot be maintained. He hence inferred, that if the work to be performed by the heart were diminished in proportion as its power was lost, the circulation might be supported. He found, accordingly, that if the aorta was tied opposite to the part of the cord to be destroyed, the circulation was continued through the remaining portion of the trunk in connexion with the heart. His general conclusions were, that the heart has no intrinsic power, but that it derives its power from every part of the spinal cord; that each part of the body is animated by that part of the cord from which its nerves arise; that the sympathetic system of nerves has its origin in the spinal cord, and not in the ganglia, its office being to bring the parts to which it is distributed within the influence of the whole nervous power of the cord; that the motions of the heart which are visible after excision from the body, are similar to those which may be excited in other muscles after they have been for some time dead, and are merely cadaveric phænomena." (P. 137.)

These conclusions are strengthened by a reference to comparative anatomy, which teaches us that the vascular and nervous system advance together towards perfection, arguing an intimate relation between them; but that the former exists earlier in the scale of organization than the latter, thus demonstrating the independence of its vital endowments.

The hasty glance that has been thrown over the progress of physiology is sufficient to afford some useful inferences as to its leading principles, and the direction in which further research may be most profitably pursued.

1. The manifest insufficiency of chemistry and mechanical philo-

sophy to account for the phenomena of life, has led to a general recognition of a power in living animals, acting according to laws different from those of inert matter. Whenever physiologists have lost sight of this truth, they have been led into inane and even ridiculous speculations. On the other hand, all attempts to define the nature of this power,—whether it reside in one agent or in many,—whether it be a property of some particular kind of matter, or something superadded to common matter,—have led to hypotheses perhaps only less repugnant to common sense from coming less under its cognizance, and certainly not approximating at all more closely to the truth.

All that we know of vitality is, that it exists and manifests itself by phenomena differing in each variety of organic texture. Our actual acquaintance with the extent and connexions of the animal tissues is extremely limited, and physiology here calls for the aid of minute anatomy, which, if assiduously cultivated, will probably give increased applicability to Haller's doctrine.

The tissues have hitherto been considered chiefly in their expansion over large surfaces: it seems to have been forgotten that the parenchyma of the viscera most essential to life is entirely composed of an involution of these tissues, and, till the structure of every organ has been developed by the careful unravelling of the tissues that enter into its formation, physiologists must not expect that general anatomy can be brought into any very instructive relation to their science. The enquiry above proposed has been lately commenced by Mr. Kiernan, whose investigation of the intimate structure of the liver has been conducted on the strict principles of general anatomy: the perusal of his admirable memoir has suggested the preceding observations, and we hope to see the anatomy of many other organs investigated by him in the same masterly manner.

2. The vital principle is not self-acting, but is excited into activity by an immense number of extraneous causes, of which the operation on the organism is so controlled and modified by the presiding power, as to produce those phenomena the aggregate of which is called life.

We have remarked that this important consideration appears to have been more present to the mind of Hippocrates than of many physiologists of modern times; in fact, it seems to have been nearly lost sight of till brought into notice by the theory of development, by Tiedemann's ideas on assimilation, and by the highly philosophical attempts of De Blainville to establish valid distinctions between organized and inorganic bodies: it could never have been disputed, (for its truth is at once obvious,) but it was not taken into account, and its absence from the speculations of physiologists may have been one cause of the disposition to personify the vital principle, to endow it with reason, and to invent divers idle hypotheses of life, instead of investigating its declared laws, and the conditions under which it is found to exist.

The relation between life and its external conditions, once placed in a prominent point of view, cannot fail to engage a large share of the future attention of physiologists. The advanced state of the natural sciences affords a considerable store of materials for the prosecution of this subject, which has already been partially illustrated by writers on the natural history of man and animals, and on medical topography and statistics: such researches, though hitherto conducted without reference to their most important tendency, have pointed out many striking examples of the influence of external causes in diversifying the phenomena of life, and in modifying, nay almost metamorphosing, the forms of organization.

The living body, thus inseparably connected with external nature, is not stationary, but passes through successive stages of growth, maturity, and decline. In these stages, its relations to surrounding things undergo a gradual change: the fœtus, the growing child, the youth, the adult, and the aged man, have each their peculiar conditions of life; some of which it would not be difficult to enumerate, and all of which, as far as they can be observed, should be subjected to a much more careful consideration than they have yet obtained.

3. Not only is the entire organism kept in a state of constant relation to external nature, but the several systems which compose it maintain a relation among themselves, which varies at different periods of existence: thus, the vascular and nervous systems preserve a balance essential to the continuance of life, and the reproductive organs acquire, at a particular epoch, a preponderance of action which modifies to a greater or less extent the whole range of its phenomena.

The influence of particular systems and organs on the vital manifestations of the entire organism have hitherto been chiefly investigated by the mutilation of animals; a mode of enquiry which can never lead to satisfactory results. Such experiments rather demonstrate how the phenomena of life are enfeebled or annihilated by the abrogation of a function, than how they are sustained by its exercise. Death, not life, becomes the subject of observation.

The anatomical comparison of organized beings affords a more promising method of enquiry: it presents us with subjects deprived of certain organs and functions, without detriment to life; it disjoins systems, and re-unites them in different degrees of perfection, thus supplying us with data for synthetical as well as analytical observations.

Art. III.

1. *An Essay on Clinical Instruction, by* P. Ch. A. Louis, m.d. *Translated by* Peter Martin, Member of the Royal College of Surgeons, London.—1835. Pp. 33.

2. *Recherches sur les Effets de la Saignée dans quelques Maladies Inflammatoires, et sur l'Action de l'Emétique et des Vésicatoires dans la Pneumonie.* Par P. Ch. A. Louis, Médecin de l'Hôpital de la Pitié, &c.—Paris, 1835. Pp. 120.

Inquiry concerning the Effects of Bleeding in certain Inflammatory Diseases, and of the Action of Emetic Tartar and of Blisters in Pneumonia. By P. Ch. A. Louis, Physician to the Hospital of La Pitié, &c.

3. *De l'Emploi du Tartre Stibié à haute Dose dans le Traitement des Maladies en général, et dans celui de la Pneumonie et du Rheumatisme en particulier.* Par Alm. Lepelletier de la Sarthe, Professeur de Pathologie et de Physiologie, &c.—Paris, 1835. Pp. 224.

On the Employment of Emetic Tartar in large Doses in the Treatment of Diseases in general, and in that of Pneumonia and Rheumatism in particular. By Alm. Lepelletier de la Sarthe, Professor of Pathology and Physiology, &c.

It gives us great pleasure to have an opportunity of noticing, from the French school, attempts to improve directly the therapeutic branch of our art,—that department which the public will ever regard, and medical men ought to regard, as the most important. We are aware of the great improvement which the treatment of diseases necessarily derives from precise ideas regarding its nature, and how much this precision has been augmented by the pathological labours of our ingenious and indefatigable colleagues on the other side of the Channel. It should however be remarked, that the advantage in a curative point of view hence resulting, has been almost entirely limited to the accurate distinction between inflammation and changes in organs not originating in this morbid condition; and, consequently, to the employment of the remedies of inflammation in certain cases, with that degree of vigour which a perfect knowledge of its existence imparts, and in the abstinence from them in other instances, in which the same accurate knowledge teaches us they would be superfluous and injurious; but, we regret to add, with the suggestion of no means of controlling these non-inflammatory conditions, or, at least, of none possessing a probability of beneficial results calculated to win for them the confidence of the medical community.

This we believe to be briefly our present position in all cases of danger; all which threaten immediately the duration of human existence: we think only of inflammation, seek only for inflammation, and treat only inflammation: at least, we treat this alone with decision and vigour; out of this line, our movements are groping and hesitating.

At a superficial glance, this might appear a humiliating view of medical science and practice; but when we reflect how much of disease is in reality inflammation, the accurate culture of this limited but very extensive domain will be justly regarded as no inconsiderable achievement of art: "est quiddam prodire tenus." We would remark, moreover, that there is a growing feeling among medical men of the propriety of proceeding, if possible, beyond these limits. This disposition is discernible rather in the measures of practical men at the bedside, than in the productions of the press; though, in the writings of the late Dr. Gooch, Dr. Marshall Hall, and others, indications of its growth may be discovered; for in medicine, as in other human pursuits, the press is often but the echo of public feeling. We do not know, however, that these attempts to add, in a remedial sense, to our knowledge of acute disease have proceeded beyond the accurate discrimination of neuralgias from other maladies of a more dangerous nature, which they occasionally simulate, and the recognition of asthenia and anæmia as actual *existences*, and sources of danger. The latter congenerous affections, the dread of which constituted, little more than a quarter of a century ago, the overwhelming feeling of the profession, "like Aaron's serpent, swallowing all the rest," and which subsequently fell into a neglect as unreasonable as their former superstitious worship, may be regarded, however, in their resuscitation, rather as the instruments of improving our treatment of inflammatory disease, than as opening out perfectly new and distinct views of practice.

Many of us may recollect the day when the treatment of inflammation was absolutely bad on both sides of the Channel; our Gallic neighbours erring from the excessive dread of asthenia to which we have just adverted; ourselves from regarding the lancet as the sole remedy, and employing it with a degree of rashness that seemed occasionally irrespective of the present safety of the patient, and always of his future health and comfort. A grievous error, if we mistake not, lay at the root of this Sangrado-like practice. It was conceived possible instantly to extinguish inflammations, and general bloodletting was considered the specific by which this extinction was to be accomplished. Consequently, if the first operation, however abundant, did not attain this object, enough of blood had not been drawn, and a second, a third, a fourth, &c. were resorted to, however slight might be the indications of local affection yet remaining, and how much soever of the apparent constitutional excitement might be, in truth, but a degree of irritable, feeble reaction, which most practised eyes have remarked from excessive depletion. The fact we believe to be, that no amount of depletion,—indeed, no remedial measures, however violent,—will instantly cure inflammation. Our remedies abate the constitutional excitement, and, if they do not diminish the local affection, are a check on its increase. By thus keeping the disease within the sanative powers of the constitution, they diminish its duration, and conduce to the safety of the patient; but do not, in any case, instantly extinguish the affection. This is the information we have often received from the stethoscope in pneumonia, and we have witnessed effects from bleeding in visible inflammation which tend strongly to confirm it. When, some years ago, ophthalmia prevailed in the army, patients were often bled to syncope, losing sixty or seventy ounces of blood. The conjunctiva partook of the general paleness, being pearly white during the fainting fit; but, on the circulation being restored, the vessels were again gorged with blood, and the disease was still to be treated.

The first step towards a rational practice in inflammation,—towards that middle path, equally remote from continental timidity, which allowed the patient to die, and that insular rashness which killed him,—was the employment of mercury as a substitute for further depletion in the advanced stage of the affection. The next we owe to the French pathologists, and more particularly to Laennec, who, by endowing us with the means of precisely ascertaining the site of certain inflammations, induced us to substitute leeches and other local measures in the vicinity of the affected part for a proportion of our general bleedings, and thus to do something towards obviating that anæmious condition, of which the older members of the profession have all of them witnessed such melancholy examples.

How far the remedy, *Emetic Tartar* in large doses, which forms the sole subject of one of the important works now under review, and is ably discussed in another, may conduce to the same desirable result, is a question well worthy of consideration; and certainly the able authors, in a different mode, but each with much talent, have furnished copious materials for attaining a correct conclusion. Indeed, we have much pleasure in observing that our neighbours are displaying in therapeutics the same minute and accurate investigation of facts, and the same patience in recording them, which have shone so conspicuously in their pathological pursuits.

A very imperfect idea would be given of the work of that truly philosophic physician, M. Louis, did we consider it without reference to the method of close analysis and cautious induction which it is his object to introduce into medicine, and of which the work under consideration may be considered as the first therapeutic fruits presented to the public. This method has been embodied in a pamphlet, not originally intended for publication, but of which a translation has been published (with the permission of the author,) by Mr. P. Martin, surgeon, of Reigate; and from this small work we shall extract a succinct account of the system, both for its value, and in order that the reader may have it in his power to judge how far M. Louis has, in his therapeutic work, made a successful application of his own "Organum." We must observe, that Mr. Martin's translation of this little work of M. Louis presents a pleasing proof of the impression produced by M. Louis on his pupils, including those of our own country. Not a few of them, probably, like Mr. Martin, will ever acknowledge, and gladly acknowledge, that the strongest impulse given to their industry, and the most enlightened direction given to their enquiry, originated with a teacher to whom they were only recommended as young foreigners desirous of information. The example of M. Louis can never be lost upon them; and Mr. Martin has given an earnest of this, whilst he has paid a tribute of gratitude to M. Louis, by taking pains to lay this little work before the English reader.

The Essay on Clinical Instruction consists of two divisions; the first treating of the study of particular facts, or of diseases considered in an isolated manner; the second being a summary (*resumé*) of a clinical course, or an enquiry into general facts. In the first division, the clinical professor is advised, previously to studying the symptoms of a disease, to inform himself "of the age and profession of the subject; of his habitual state of embonpoint or of emaciation, of strength or of weakness, of health or of disease; of the affections under which he has laboured previously to the present; and of his good or bad conformation." Valid reasons are assigned by the author for accuracy on all these points, not merely in reference to the individual case, but likewise with the more important view of obtaining statistical data for the advancement of science. These preliminary questions settled, the physician is to endeavour to learn from the patient the precise period at which the disease commenced; and judicious suggestions are given for surmounting the difficulty which we have all experienced of obtaining correct information on this head. He should then proceed to the investigation of symptoms; and M. Louis advises that

> "These should be studied successively, one by one, in the order of their development, from their appearance to the moment at which the patient is submitted to our observation, and from this moment to the determination of the malady: the precise period of the appearance of each must be enquired into; without which we might, following the example of more than one author, be induced to consider as primitive, symptoms which are only secondary, and consequently to deceive ourselves with regard to the true character of the affection."

With respect to this part of the subject, symptoms, comprising the results of auscultation, and percussion, and necroscopic observation, he insists on the utmost minuteness.

> "Pathological anatomy," he says, "declares the value of the other methods of exploration which it interprets. Without it, for instance, how should we know that crepitous *râle* indicates the first degree of

pneumonia; that *gargouillement* and pectoriloquy demonstrate the existence of tuberculous cavities? that ægophony corresponds to an effusion of fluid into the cavity of the pleura? the symptoms of softening of the brain to that affection? those of adynamic fevers to a profound alteration of Peyer's glands? Evidently these facts would be unknown to us.

"We might certainly, without the assistance of this science, and by the aid of symptoms alone, determine the seat of a great number of maladies, but of their nature we should remain ignorant. The symptoms of apoplexy indicate sufficiently that the brain is the seat of this affection, it is the same with the symptoms of softening of this organ; but how, without the aid of pathological anatomy could we know that the former are caused by a hemorrhage, the latter by a softening or inflammation. But as the history of symptoms becomes valueless unless they have been noted with great care, from their commencement to their termination; unless all the functions have been interrogated in the same manner; so pathological anatomy can only render to science all the service which might be expected from it, when we proceed with extreme care to an examination of *all* the organs in those cases which have proved fatal."

M. Louis subsequently informs us, that "its object is not merely to point out the seat of diseases, to shew their nature, to verify or unravel their complications: it is the only means of arriving at the knowledge of a great number of the laws of the economy of disease which are the most important; and this knowledge can only be the result of an equally attentive examination of *all* the organs." Certain of these laws, brought to light by the philosophic industry of the author, are explained and exemplified in the essay before us, but much more fully in his Treatise on Phthisis; an account of which, translated by Dr. Cowan, is given in our first Number.

Causes, including hereditary predisposition, are to be investigated with the greatest care; and suggestions are given for conducting the investigation. The author would reject all statements unaccompanied with that full detail of circumstances fitted to substantiate the facts. To be told that a man's father has died of phthisis is nothing, unless the individual making the declaration can describe symptoms which prove this to have been the fact. The evidence, however, in cases of this sort being generally derived from non-professional witnesses, and treating of the circumstances and feelings, not of the witnesses, but of others, we think that the instances will be rare in which it can be obtained of the degree of minuteness required by M. Louis. In vindication of the preciseness demanded both on this and other points, he makes the following sound remark:

"These details, I am convinced, will not appear too much extended to those who remember that medicine as a science rests entirely on observation, and that particular observations are to the physician what experiments are to the natural philosopher: that if the latter cannot be too careful and exact in his experiments, it is the same with the former, in reference to his particular observations, to the manner of interrogating his patients, of investigating their state, and the causes which may have contributed to the development of their diseases."

The task of examination completed, the reasoning follows. We must convert our symptoms into signs, as through them we are to arrive at a knowledge of the organ affected, or of the pathological state of the subject; a task in ordinary cases of no great difficulty, but in others presenting real difficulties, to be subdued either by considering the series and connexion of the symptoms, or by way of exclusion; that is, by observing that one organ only being affected, the disease must be *there*, however slight the affection may apparently be; or by recurrence to a well-established law in the economy of disease, to which we have already alluded, and which M. Louis himself was the first to develope,—that a certain alteration, or a certain evident disease, supposes the existence of another still latent.

"But, having discovered," he adds, "the organ affected, it is necessary also to determine the disease of which it is the seat: a new, and in the present state of the science, sometimes an insurmountable difficulty; not so much from the divergence of the opinions of authors on this point, as from the want of exact and numerous observations in a great number of diseases, from which information might have been derived; especially from the want of anatomical inspections carefully conducted at different periods of the same disease."

If all the preceding information has been carefully collected, the prognosis flows from it almost as a necessary corollary. The author's opinion as to the principle which should guide us in the treatment admits of an equally brief description. He advocates, as might be expected, the empirical method. "Rational medicine," he observes, "is the medicine of experiment: to observation and experiment alone does it belong to pronounce upon all that regards pathology and therapeutics, especially therapeutics, which we have been accustomed to consider, we know not why, as a simple corollary of pathology."

In the second division, we are advised to consider as exact only such facts as have been collected according to the principles, with all the caution and in all the details expressed in the first division; and our analysis should comprise only those facts which have been carefully collected, and as to the accuracy of which no doubt can be raised.

"These facts should be formed into groups: those should be united which by their similarity indicate the same affection; those should be separated which offer opposite characters: and for this purpose, we should not only consider the symptoms in themselves, but also their progress, duration, order of succession, and the different circumstances under which they are developed." * * * "We may be more confident in the classification of facts, when, among those of the same species, there are some relative to cases which have proved fatal. Then there can be no doubt of the similarity or identity, if the same lesion is constantly observed in all, which by its nature and its seat, will explain in a satisfactory manner the first symptom observed.

"This lesion, then, ought to be considered as the anatomical character of the disease; and as it accounts for the first symptoms, it appears they were connected from their commencement with an appreciable alteration of texture, which as I have observed above, is not the case in all diseases.

"The facts being thus classed, it is necessary to study them, and as in each case, or in each disease, the state of all the functions and organs has been ascertained, we should now follow the same function, the same symptom, the same organ, through each particular fact. For in the same disease we observe not merely symptoms or lesions peculiar to the organ affected; but also many others, which are met with more or less frequently, in the most different diseases, and without which we should evidently have but a very imperfect idea of the disease.

"But to have exact data on these points, to know with precision the value of each symptom in a disease, we ought in the first place to seek for the proportion of cases in which it is observed, and this is to be done by *counting*.

"For the words" *more or less*, "consecrated by custom, signify, it will be agreed, either nothing or very little. When it is said, for instance, that a symptom is frequently observed in a disease, does it mean that it is observed, twenty, thirty, forty, sixty, or eighty times in a hundred! Evidently it is uncertain, an expression is used the meaning of which is not known, and which it is not possible to replace by one more exact, except by *the method of counting*. Thus, it was known that diarrhœa was common during the course or at the commencement of typhoid fevers; but to ascertain the real meaning of this word *common*, it was necessary to count; and it is only after having done so, after having ascertained that diarrhœa occurs in two-thirds of the cases, at their commencement, that this symptom has become of great importance in the history, and especially in the diagnosis, of fevers. The same may be said of the rose-coloured lenticular spots observed in the same disease: little notice was taken of them in its history, until it was ascertained that they appeared almost constantly, so as to be wanting scarcely twice in a hundred cases. So that, if one of these two symptoms, the diarrhœa or the typhoid maculæ, were wanting at the commencement, or in the course of an affection, which should otherwise in some points resemble typhous fever, without having the characteristic symptoms of any other disease, we should almost entirely lay aside the idea of typhus." (P. 21.)

This numerical proceeding, which is the distinguishing feature of the author's method, and which, in the passage just quoted, he has applied to symptoms, he extends to all the other circumstances connected with diseases. Their duration; the influence of age, sex, temperament, and treatment, on this duration; their comparative frequency and mortality; the variations of the mortality according to age, sex, season of the year, various localities and climates, and in the same locality at different periods; the proportionate success of different modes of treatment:—all this cannot be ascertained, he conceives, (and we think him correct in the opinion,) otherwise than by counting.

The numerical method admits an important application to the illustration of the causes of disease, which the author exemplifies in the following important remarks:

"It is an opinion still very generally prevailing, that tubercles of the lungs are the result of inflammation of the bronchi, or of the parenchyma of the organ in which they are disseminated.

"But ought not that physician to feel himself much shaken in his opinion, who learns that bronchitis, at least in the severe form, is more frequent in the male than in the female, in the proportion of three to one; that it is the same with peripneumony; whilst phthisis, on the contrary, is less frequent in the male than in the female?

"Similar remarks may be naturally applied to cancer. This disease can scarcely be considered as a termination or consequence of inflammation, by him who knows, from the inspection of a great number of bodies, that whilst pulmonary and intestinal inflammations are the most frequent, cancer appears most commonly in the uterus and stomach; that the liver is next in frequency, and then, at a considerable distance, the lungs and kidneys; that of eight hundred subjects whose viscera have been examined with care, only two examples of cancer of the rectum have been found, and not a single case of that affection in the small intestine." (P. 27-28.)

The reader is now in possession of a faithful outline of M. Louis' method of clinical instruction. We anticipate the remark it will call forth: this is the "Novum Organum" applied to medicine, with such modifications and peculiarities as the nature of our pursuits demands. The remark is just, but at the same time the best eulogium of the system. Why is medicine,—why especially is therapeutics, (its most important yet weakest point,)—in so inefficient a state, but because, with the worship of inductive philosophy on our lips, our hearts have been far from it. Observation in medicine, to furnish us with the general facts we require, must not be limited to a few objects. We cannot reason safely from individuals to individuals, but only from groups or masses of facts to other groups or masses. This arises from the variable character of the phænomena with which we are conversant, and which we cannot modify, as a chemist does his experiments, to our will, but must accept as nature presents them to us; and hence comparisons between individuals are fallacious: but, when instituted between numerous groups, the varieties of which mutually compensate each other, general principles, deserving of confidence and adapted to future purposes, may be deduced. We admit that a professional man, hurrying from street to street of our vast metropolis, or tiring himself and his horses through an extensive rural district, is ill-situated for observing, grouping, and analysing facts in the way required for the "augmenta scientiæ." A certain mental process of the inductive kind he is probably daily carrying on, by which his own knowledge is increased; but he has not leisure, and probably he does not possess the habits of mind requisite, for presenting it to the public in that statistical form which alone can carry conviction to the mind of others. When a new remedy is proposed, a *trial* is given to it with greater or less confidence, according to the authority of the individual proposing it: it is never employed at once, with a certainty of its beneficial effect, from the amount of well-sifted, positive, and comparative evidence, by which it is supported. We are all insulated, each man gathering for himself, or, if he sometimes listens to the suggestions of others, it is with suspicion and hesitation. Some become wise and skilful; but, when they die, their wisdom and skill perish with them. What we lack are principles, or general facts, reposing on sufficient evidence to convince us of their validity, communicable to all, and available for the purposes of all. Such principles, if we are to obtain them, must emanate from great public institutions: and for forming them we can recommend no surer guide than M. Louis.

We now proceed to present the reader with a view of M. Louis' therapeutic work on the effects of certain remedies in inflammatory diseases.

The first article treats of bloodletting in pneumonia, and its purport is thus stated by the author:

"The subjects of which I am about to study the history are seventy-eight in number. Of these twenty-eight died, and all were in a state of perfect health at the period when the symptoms of the disease displayed themselves.

"Of the fifty individuals who recovered, three were bled on the first day of the affection, as many on the second, six on the third, eleven on the fourth, six on the fifth, five on the sixth, six on the seventh, as many on the eighth, and four on the ninth; and the mean duration of the affection was, in the order indicated, of 12, 10, 18, 19, 22, 20, 12, 17, and 23 days. But the following table will make more clear the relation between the duration of the affection and the period at which the first bleeding took place."

Of this table we copy only the final column, or that comprising the sum of the details; premising that the upper figures indicate the day when the first bleeding took place; those on the left, in the final column, shew the duration of the disease; those on the right, the mean number of bleedings employed.

1	2	3	4	5	6	7	8	9
12 2⅓	10 2⅔	18 3	19 3	22 3	20 2½	19 2⅓	17 2	23 2

"That is to say," continues the author, "if we could establish a general proposition by the aid of this small number of facts, we should inevitably conclude that the antiphlogistic treatment, undertaken during the first two days of an attack of pneumonia, has the power to abridge its duration very much; but, these two days having elapsed, that it is of slight import, whether he commence it a little sooner or a little later. But the sort of contrast which exists between these two propositions ought to make us suspect their correctness, and a thorough examination of the facts shows, in effect, that the influence of bloodletting, performed during the first two days of the disease, is less than it seems to be at first glance, and that in general its power is very limited.

" In cases recorded in the same column, or in which the antiphlogistic treatment began on the same day (independently of those in the first and second columns), the duration of the malady presented the greatest variations, so that in those of the fourth column, some were convalescent on the twelfth day, others (not to take extreme terms) on the twenty-fifth or twenty-eighth," [his table would have justified his saying the fortieth,] " which cannot be attributed to the degree of the disease, which was the same, or to the difference of treatment, which was equally energetic, and directed by the same physician. Whence it seems to result that, in these cases the utility of bleeding had very narrow limits.

" Differences not less considerable in the duration of the affection would without doubt have taken place in the individuals bled during the first twenty-four or forty-eight hours, had their number been greater. And, on the same supposition, the difference of the mean duration of pneumonia, in the subjects bled the two first days and in those who were not bled till a period more remote from the commencement, would have been on the contrary less considerable. So that we should approach nearer the truth, we should discover better the real difference effected in the course of the disease by the greater or less promptitude with which the bleedings were performed, by taking the mean duration of the disease, on the one hand in the cases bled the first four days; and, on the other, in those who were not bled till the period from the fifth to the ninth inclusive. And then the mean duration of the pneumonia would be *seventeen days* in the first, and *twenty* in the second class." (P. 8-12.)

After shewing that faults in diet were committed by those who were bled late in the disease, which render his estimate too favorable to those in whom the operation was performed early, M. Louis proceeds to disprove the existence of certain supposable sources of fallacy in his data, which might have led him into an opposite error. He shows, in fact, that a difference in the ages of the two classes of patients,—a variety in the intensity of the disease,—an error in calculating its actual commencement and termination; or the operation of other remedies, such as blisters, did not in the least tend to vitiate his conclusion. "It remains, then," he says, "demonstrated that bleedings have had but a very limited effect on the course of pneumonia, in the cases which occupy us." (P. 16.)

" Facts relating to the fatal cases confirm these conclusions, and appear to contract still further the limits of the utility of bloodletting. In effect, of the twenty-eight individuals in question (the fatal cases) eighteen were bled during the first four days of the disease, nine from the fifth to the ninth; and if we unite, on the one hand, all those who were bled for the first time during the early period of the pneumonia, whatsoever may have been its termination; on the other, those who were bled later: we have, on the one part, in the order indicated, forty-one cases, of which were fatal eighteen, or about three-sevenths; on the other, thirty-six, among whom nine, or the fourth part only, underwent the same fate—a result frightful, and in appearance absurd." (P. 16.)

In explanation of so astounding a result, which seems to shew that bleeding is a noxious, not a beneficial agent in the disease, he presents us with a table. This, however, we omit, finding his verbal clearer than his tabular illustration. "We see, in fact," he adds, "that the patients bled the first four days of the disease were older than those on whom the antiphlogistic treatment was not employed till after that period, in the proportion of fifty-one to forty-three years; a difference which, without being very considerable relatively to its presumed effect, might have a great influence on the issue of the disease." He says, moreover, that, in summing together all the patients treated, whether the result was fatal or otherwise, the difference was still less, being as forty-one years to thirty-eight; but we learn that the number of those in the first class whose ages exceeded fifty, was nearly double that of individuals of the same age who were bled later, which might have a great influence on the mortality. In this view we concur, having ever found pneumonia a very fatal disease in aged subjects, but comparatively tractable in youth.

Passing over two articles, one comprising cases illustrative of the effect of bloodletting on erysipelas of the face, the other on cynanche (angine gutturale), with the remark that this effect, if any existed, was extremely small, we follow our author to another group of cases of pneumonia; hoping, by concentrating the reader's attention on one disease, and that the one, of all others, in which antiphlogistic measures are considered as the most necessary and influential, to enable him to form a clearer idea of the method of investigation, and of the results to which it may ultimately lead.

These cases were twenty-nine in number: four were fatal, whilst twenty-five recovered, and quitted the hospital in perfectly good health. The patients were healthy immediately prior to the occurrence of the symptoms, and the symptoms were of a nature to place the existence of the disease beyond all question.

"Of the twenty-five who recovered," says M. Louis, "none was bled on the first day of the disease. The first bleedings were performed on the second, third, fourth, fifth, sixth, and seventh days of the affection, with one exception only, that of an individual whose convalescence took place on the twenty-second day, and who was not bled before the fourteenth. The disease lasted, on the average, observing the order indicated, fourteen, eighteen, fourteen, fourteen, fifteen, nineteen, eighteen, and twenty-two days. That is to say, that at the first glance it would appear quite indifferent, whether patients seized with pneumonia were bled for the first time, or the second, fourth, or fifth day of the disease, since its mean duration was very nearly the same for the three groups of cases bled at these different periods. Nevertheless, on summing together, on the one hand, those who were bled for the first time, from the second to the fourth day inclusive; on the other, those who were so afterwards, we find that the mean duration of the disease was fifteen days and a half for the first, and eighteen and a quarter for the second group. Whence it would appear a natural conclusion, that the influence of bleeding performed at a period more or less near to the commencement of the disease was a little more marked in the cases in question than in those of which the history forms the subject of the first chapter, and in which the mean duration of the disease was seventeen days and a half, and twenty days." (P. 35.)

It is to be observed, that there is a discrepancy here between the estimate of the mean duration of the disease in the early-bled cases of the first group, and that which we translated literally from page 12. The author's statement *then* was seventeen days; he now rates it at seventeen and a half; and, on summing up and dividing the figures of the first table, we find the latter statement the correct one. The reader will not think this remark superfluous, when he reflects that, had the first calculation been correct, the whole amount of difference being but a quarter of a day, the advantage of early bloodletting would have been a little more manifest in the *first* than in the *present* group, the conclusion of M. Louis being thus reversed. Since observing this discrepancy, we have re-examined all the calculations of which the results are presented to the reader, and find them accurate (with the exception mentioned,) saving some fractions, represented with sufficient correctness by the approximating terms, one half and one quarter.

The question may be raised, and with justice, to what extent is the duration of a disease the measure of its intensity and danger? The author has thus far shewn that the influence, over this duration, of bloodletting performed early, is not much more considerable than that of a later bleeding; but he has shewn no more. A disease may be slow and lingering, and yet not productive of more suffering, or attended with greater danger, than a malady more acute and rapid. We constantly observe, for instance, that in any given epidemic of fever, of which the general course is long and tedious, the individual cases are milder, and the mortality is less, than in a disease which reaches its goal more quickly. The author himself admits, with regard to pneumonia, that the duration of the disease is not a measure of its severity, when he says (p. 11,) that a difference of as many as thirteen or sixteen days in the period at which certain patients became convalescent did not arise from a variety in the degree of the affection, "which was the same in all." What we all wish to acquire are precise ideas regarding the influence of remedies on suffering and mortality; and we should consider the extent to which the duration of a disease is affected by them to be an imperfect means of calculating this influence. A much more correct estimate of the effect of bloodletting may be formed, we conceive, from M. Louis' account of its operation on the general state and particular symptoms of patients in pneumonia, which we regard as one of the most interesting parts of this valuable little volume. He has minutely detailed the modifications which the symptoms underwent under the influence of bloodletting in both groups of cases,—the seventy-eight which form the subjects of the first chapter, and the twenty-nine which are discussed in the present one. For the sake of brevity and clearness, we shall confine ourselves to the second collection of cases, indicating, as we go on, any discrepancies in the effects of the two groups. We are induced to select the second group, the rather that the practice adopted regarding them bore a greater resemblance to that habitually employed in similar cases in this country, than was observed in the treatment of the subjects of the first chapter; the bleedings, in the former case, having ranged in quantity from twenty to twenty-five ounces each, or even to syncope, and in number from one to three: those in the latter having been, in quantity from ten to fifteen ounces, and in number from a single bleeding even to seven.

After pointing out the impossibility of effecting an instant cure of pneumonia, M. Louis remarks:

"The circumstance which has imposed on practitioners, and induced them to believe that it was easy to extinguish pulmonary inflammation at its commencement by means of large bleedings, is the fact, that in some cases, in truth not very common, bleeding performed at this period, is followed by a considerable amelioration of the general symptoms, and of some local symptoms, namely the pain and the dyspnœa. But the other phenomena remain, and even increase in intensity and extent after the first bleeding, if it has taken place *near the beginning of the disease;* and if we do not then examine the patient with care, we believe that we have extinguished a disease of which we have only considerably diminished the febrile movement and some other symptoms. I observed last year a remarkable example of this fact, in the case of a young man, admitted into la Pitié within twenty-four hours after the first invasion of illness, and having then all the symptoms of pneumonia; extreme dyspnœa, much pain in the left side, hurried respiration, rapid pulse, and great heat. He had orthopnœa, the sputa rust-coloured, viscid, and semi-transparent, the sound of his thorax a little obscure behind and inferiorly, where were heard, at the same time, a crepitating râle, a respiration confused, or, as it were, bronchial in some points, and broncophony without egophony. He was bled from the arm to syncope soon after his arrival, and lost twenty-five ounces of blood. Soon after, he experienced great relief; and on the following day many persons, who were present at my visit, thought they had before their eyes a pneumonia extinguished. The pain was less than in the evening; the pulse was but a hundred; the anxiety had disappeared; and the expression of the physiognomy was natural. Nevertheless, the sputa preserved their characteristic appearance, and the obscurity of sound, and the broncophony existed over a more considerable space than in the evening. So that the pneumonia, far from having been instantly cured by a first and copious bleeding, had acquired after it a greater development and extent: a development which did not stop till the fifth day of the disease, of which the convalescence did not commence till from the ninth to the tenth." (P. 38.)

The great relief afforded in this case, (and we could furnish from our own records many parallel instances,) though the local affection not only remained, but even extended, we believe to be explicable mainly on a general principle not adverted to by our author, but of which innumerable examples have proved to us the existence,—namely, that dyspnœa, when not depending principally or solely on spasm of the bronchi, is materially relieved by the prompt diminution of the circulating fluid. Not only in inflammation have we constantly witnessed this, but in affections of a different character, particularly in valvular disease of the heart; in which we have seen the patient in a state of orthopnœa, with a swollen and suffused countenance, injected eyes, and expanded nostrils; and then, shortly after a full bleeding from the arm, in a state of comparative ease and comfort, extended composedly on his bed. We are not disposed to detain the reader with reasonings on the expediency of adapting the amount of the circulating fluid to the extent of lung left free to render it arterial; or by running the parallel between the condition of this organ in pneumonia and when the pulmonary vessels are gorged with blood, in consequence of the difficulty of its transmission through the heart; but we advance the general fact as one of practical value. Not only does it furnish an explanation of the relief afforded in the case quoted by M. Louis, and in similar instances, but it appears to explain why, in all ages and countries, venesection has been so generally adopted in the treatment of inflammation of the respiratory organs. In pleurisy, says Celsus, "remedium est magni et recentis doloris sanguis missus;" in peripneumony, he remarks, "Oportet, si satis validæ vires sunt, sanguinem mittere;" and the tone of all the ancient writers is the same. The effect on one of the most urgent symptoms being immediate and manifest, it is natural that it should be a remedy of general adoption in the infancy of the art, and should retain its reputation through a succession of ages; but the same circumstance is a reason for our studying minutely the nature and extent of its action, that we may acquire the greatest possible skill in its application. We have, therefore, great satisfaction in laying before the reader so full an account of its effect on the individual symptoms of pneumonia as is contained in the following extract:

"The pain was not removed in any case by the bleedings; it was even but very little modified by general bleeding, twenty-four hours after which it was found only a very little less severe than on the preceding day, in the majority of cases. It still existed on the sixth day of the disease, in a subject on whom the operation was first performed on the second; who lost in forty-eight hours fifty ounces of blood by the lancet, and from five to six ounces on the fourth day by the application of twenty leeches to the painful points. Its mean duration was seven days and a half, both in cases of inferior pneumonia and in those in which the disease affected the superior lobe;* and in one of these last cases, in which the patient was bled even to syncope and lost thirty ounces of blood on the third day of the affection, the pain was only a little diminished on the following day.

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* In a long note here, the author rather explains a fact stated by M. Andral, than differs from that accomplished pathologist. M. A. had remarked that pneumonia of the

"Respecting the first group of cases, it is mentioned that the pain generally increased during the twelve or twenty-four hours immediately following the bleeding: it is stated, likewise, that it yielded more quickly to local than general bleeding. In other respects, the statements regarding the pain in the two groups correspond.

"The sputa did not lose their pathognomonic character in any case on the day following the first bleeding; not even in those cases which have just been quoted, and in which the sanguineous evacuation was very copious. The duration of this character was proportional to that of the disease, so that the *sputa* did not cease entirely to be characteristic, on the average, till the seventh day of the pneumonia, in those who were bled before the fifth: and on the ninth in those who were bled later; and, as was remarked in the cases of the first chapter, the influence of losses of blood on the sputa appeared the more marked in proportion as they were performed for the first time at a period more remote from the commencement, so that in the individuals bled late, or after the fourth day, the sputa showed nothing remarkable twenty-four, forty-eight, or seventy-two hours after the first bleeding; whilst, in those who were bled early, their pathognomonic character never completely disappeared before three days, counting from the first bleeding. A difference which can only be explained, as I have said, by the circumstance of the disease approaching its natural term in the former cases, and being more or less remote from it in the latter.

"Besides, if the duration of the affection was very variable in individuals bled the same day, this was equally the case with the characteristic appearance of the sputa, which continued, in different degrees, during a space of time varying from four to eleven days, or from seven to fourteen, in cases bled for the first time, before or after the fifth day."

It is remarked concerning the influence of bleeding on the *sputa*, in the first group of cases, that "their pathognomonic character became more apparent (*saillante*) if the loss of blood took place at a period near the commencement of the malady. It became much less evident, on the contrary, the day following the bloodletting, in those for whom it had been prescribed at a remote period:" facts which he explains, as in the instance of the first group, by the disease approaching its natural termination in the latter case, and being remote from it in the former.

"The *crepitation* remained longer than the two symptoms already named; from ten to fourteen days, in the cases bled before the fifth day;

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upper lobe was more serious than that of the lower. M. L. regards this as a simple coincidence, and pneumonia of the upper lobe as more severe in appearance *only*, because it is the pneumonia of old men. In fact, the third part nearly of M. Louis' cases were affected with *superior* pneumonia, and their average age was fifty-four; whilst the mean age of those in whom the inferior lobe was inflamed was thirty-five; and, moreover, of these cases one only was fatal.

From the same circumstance it arises that superior pneumonia in those who recover exceeds the affection of the inferior lobe in duration by three days; a difference, he adds, which is nearly the same for each particular symptom.

from ten to nineteen in those subsequently bled; mean term, twelve days for the first, and fourteen for the second. It was not at once extinguished in any case.

"*The respiratory murmur* was more or less considerably affected during eighteen days, as a mean term. The modification of this murmur, designated by the phrase bronchial respiration, did not yield in any case to the first bleeding; and it was the more influenced by the employment of this means, as it was more tardily adopted: so that, it was much less perceptible the day following a bloodletting performed on the sixth day; and that an analogous diminution did not take place in individuals bled for the first time on the second or third day of the disease, till three days after the bleeding.

"The *broncophony*, which arises from the same causes as the bronchial respiration, followed the same course, and had the same duration.

"The *obscurity of sound* existed in all the cases, and remained, on an average, till the nineteenth day of the disease; its diminution being gradual: and if we except two cases bled on the fourth day of the disease, in which the obscurity of sound was much less the day following the opening of a vein than the preceding day, this amelioration did not commence till from two to five days after the first venesection, and so much the more tardily in proportion as this operation was performed at a period nearer the commencement.

"In three cases in which the bleeding was performed on the second day of the disease, the *pulse* fell the following day from 120 and 100 to 108, 80, and 96. But the day following a second bleeding, it was 104, 108, and 90: that is to say, it had fallen, after two bleedings, only a few pulsations.

"It was the same in the individuals bled on the fourth day for the first time, for in them the amelioration was null or momentaneous the following day. But in the great majority of the cases in which the first bleeding did not take place till after the fifth day of the affection, the pulse was less accelerated from the following day, and this amelioration went on increasing afterwards.

"In the cases in question, as well as in those which were analysed in the preceding chapter, venesection did not influence in any considerable degree the course of the symptoms of pneumonia, excepting when it was performed at a period sufficiently remote from the origin of the malady; and, without doubt, as I have already remarked, it then produced an effect, because the disease had approached more or less its natural termination; whilst it was more remote from it in the cases wherein the bleedings took place sooner. And these facts, as well as those relative to the duration of the pneumonia, prove how limited is the utility of bloodletting in the treatment of this affection." (P. 41.)

On reading the last-quoted sentence and many passages in this extract, the question almost inevitably occurs, if bleeding produces any apparent effect only because the disease is reaching its natural termination, may not the operation and the improvement be mere coincidences, and all the change observed but the natural progress of the disease to resolution? It is admitted that the malady is near its close; the bleeding has been long delayed, and we can hardly help regretting that there is not sufficient hardihood to withhold it altogether: for, till such a measure be adopted, it is impossible to estimate its real value as a therapeutic agent. We see one obstacle, and we fear it will prove insurmountable, to the perfectly successful pursuit of M. Louis' object of testing the importance of our remedial measures,—our total ignorance of the natural course of acute disease. We have two powers in operation: the tendency within the constitution to self-reparation, (*vis medicatrix naturæ*, if the term be not objected to,) and our therapeutic means: we are ever at a loss to know what share of the fortunate issue to attribute to each; and this obscurity, as it appears to us, must envelope our facts and confound our reasonings, till some one shall be found bold enough to intrust the cure of pneumonia, and other serious internal phlogoses, to repose and water-gruel. The homœopathists might have assisted us; for their doses of medicine, which are so infinitessimally small that we lack fractional numbers of sufficient exiguity to express them, might have been disregarded in the estimate; but they have been, apparently, little occupied in combating acute physical disease, or rather in watching and recording its natural progress.

Practitioners in our sea-ports occasionally observe deplorable examples of the ravages of disease in sailors returned from long voyages in merchant vessels, where they are destitute of medical assistance; but similar ravages are observed on shore, where professional aid is in operation; and, moreover, nothing is known of the numbers who may be attacked with severe maladies at sea, and emerge from them comparatively uninjured. In such cases, besides, not only are what we suppose to be, and let us hope correctly, the *juvantia* wanting, but the *lædentia*—errors in diet and regimen—are in full operation; so that no correct conclusions can, as it now appears to us, be drawn from such premises. We have two unknown quantities, the value of both of which could be calculated, were either excluded; but the one, the sanative power of the constitution, is beyond our control; the other, the action of remedies, there are feelings in our nature (and those very creditable ones,) which forbid us to exclude, and the problem will probably remain unsolved, excepting that a degree of light may be thrown on it by approximations to the truth, such as those furnished by our author, and others who may follow in his footsteps.

There are several interesting matters in the volume which our limits compel us to leave untouched, or to advert to slightly. For instance, M. Louis applies to the effects of blisters the same scrutinizing analysis that he has directed to the agency of bloodletting, and comes to the conclusion that in pneumonia they are devoid of utility. He allows that he has been induced to exclude them from the treatment of thoracic inflammations in general by certain analogical reasonings, in which we are somewhat surprised to see so severe a logician indulge. These we shall not detail; neither do we think it necessary to transcribe the more valuable statistical facts, which furnish a much better reason for their exclusion from the treatment of pneumonia in particular; but we fully concur in the justice of the following remark: "It certainly is beyond a doubt, and cannot be too often repeated, that we do not know the therapeutic value of blisters; and that it ought to be studied, with the assistance of numerous and well-observed facts, absolutely as if we knew nothing regarding them."

His opinion of opium, both in pneumonia and other affections, particularly cerebral ones, in which general sentiment or prejudice runs strongly against it, is much more favorable; but we hasten to lay before our readers his observations on a subject which in this country we regard as one of greater importance, the employment of emetic tartar in large doses.

The great disproportion in the mortality which took place in the two groups of cases will have arrested the reader's attention;—for, of the first group, or those treated at la Charité, 28 died out of 78, or more than one-third; in the second group, those at la Pitié, 4 out of 29, or less than one-seventh. M. Louis applies himself to the investigation of this immense disproportion, and, after attributing it in part to the bleedings, which were less numerous in those treated at la Pitié than in the first class of cases, but to a greater amount at each operation; and which circumstances, he thinks, had some influence in producing the more fortunate result in the subjects of the second chapter; he thus proceeds:

> "To sixteen of the individuals who recovered, emetic tartar was administered, during a period of from four to seven days, in quantities progressively increasing from six to twelve grains in six ounces of the distilled water of the flowers of the linden-tree (eau distillée de tilleul) sweetened with half an ounce or an ounce of syrup of poppies, and the patients took these quantities in six or eight doses. Their disease lasted, on an average, eighteen days; three days longer than that of the individuals not subjected to this treatment: so that it would appear at the first glance, that the emetic tartar had a pernicious effect on the course of the disease, instead of having accelerated its fortunate termination.
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> "But this influence was pernicious in appearance only. The emetic tartar was administered, after several bleedings had been performed, on the eighth day of the affection on an average, because the disease continued acquiring greater and greater intensity; and in cases not bled for the first time till the fifth day, as a mean term: whilst it had been performed on the third day in the cases in which this medicine was not employed. That is to say, it was given under the most unfavourable circumstances, and in severe cases, which explains the long duration of the disease in those who took it. Let us add, and it is not necessary to insist on the importance of this fact, that the patients, for whom the emetic tartar was prescribed, were older than those who did not take it, in the proportion, on an average, of forty-five years to thirty-one: an

enormous difference, which shows that not only had the medicine no pernicious effect on the duration of the disease; but that in some cases it must have accelerated its course and prevented a fatal termination.

"This last proposition appears, moreover, to be confirmed by the changes which almost immediately followed the exhibition of the emetic tartar. From the day following that of its first employment, fifteen of the seventeen persons who took it found themselves a little better, or much better, having then perceptibly more strength, an improved physiognomy, and the respiration less restrained. Besides, thirteen of them, whose chest emitted a sound more or less completely dull over a certain space, when the emetic tartar was first administered, shewed from the following day a perceptible improvement in this respect; percussion of the thorax being already more sonorous: and these various ameliorations were permanent, and made additional progress daily.

"The increase of strength from the day next ensuing, or that in which the medicine was administered, is the more remarkable, as its action was accompanied with frequent purging and vomiting. In sixteen cases out of seventeen, the alvine evacuations were very numerous, ranging from eight to fifteen on the first day, one half less frequent on the second, and, on the third and fourth, not more so than in the ordinary state. The vomitings were less numerous, and of shorter duration, than the alvine discharges: they did not continue beyond the first day, and were absent altogether in five instances.

"Three of the patients who died took the emetic tartar, and did not experience any improvement on the day following that of its administration. One alone of these had not the evacuations mentioned.

"Thus, of twenty cases in which the emetic tartar was employed under unfavorable circumstances, three only were fatal; which cannot leave a doubt, as it appears to me, of the utility of this medicine, in large doses, in the treatment of pneumonia; and so much the more as these three individuals were all aged, being sixty or seventy years old." (P. 51.)

Such testimony, from so calm and cautious an observer, is well calculated to win the reader's attention to the work of M. Lepelletier, which is dedicated exclusively to the investigation of the properties of this medicine. The method and style in which M. Lepelletier manages his subject are not unworthy of its importance; his work being learned, copious, and elaborate. In fact, this author errs by excess rather than deficiency. He tells us every thing; a habit in which French systematic writers frequently too much indulge. We feel that it is somewhat an abuse of learning to treat us, *apropos* of the modern application of one salt of antimony, to a discourse on the early contests respecting the employment of all preparations of this mineral; the extravagances of Basil Valentine and Paracelsus; the sarcasms of Guypatin; and the damnatory edict of the parliament of Paris.

In the first or historical part of M. Lepelletier's work, he, however, shews his good sense, by repelling the claim advanced by Hufeland of Rasori's *discovery*, (if we may so call it,) for Brendel and Schroeder, of the school of Goettingen, and in some degree for

Richter. If the mere employment of tartarized antimony in pectoral complaints, prior to the time of Rasori, is to deprive him of the credit due to him for introducing the practice, then may all British practitioners claim a share,—small certainly to each among so many;—for, from time immemorial, *small* quantities of this salt entered into the composition of the medicines given in this country in inflammatory diseases, those of the chest included. The essential features of Rasori's practice are, that the emetic tartar is always the principal, and not unfrequently the sole remedy; is given in very large doses, and with a view to an effect on the system and the disease, (Rasori calls this operation counter-stimulant,) entirely independent of any sensible evacuation produced.

If any writer can be justly regarded as the precursor of Rasori, it is unquestionably the late Dr. Thomas Marryatt, of Bristol, whose practice was in all essential points the same as that of the Italian professor: the antimonial salt was the sole remedy; it was given in large doses; and that the object was an effect totally exclusive of any sensible evacuation, is manifest from the following passage from the *eighth edition* of his Therapeutics, published at Bristol in 1788:* "I have seen many instances wherein a paper has been given every three hours, (of which there have been ten grains [of tartar emetic] in six powders,) without the least sensible operation, either by sickness, stool, sweat, or urine; and, though the patients had been unremittingly delirious for more than a week, with subsultus tendinum, and all the appearances of hastening death, they have perfectly recovered without any medical aid,—a clyster every other day excepted. I have lately seen a great many cases similar to the above, and the tartarized antimony has invariably produced the same effect." (*Ther.*, p. 7.)

We quote this passage with no disparaging view towards Rasori, but with a firm conviction that the practice he adopted and recommended, so many years after the publication of Marryatt's work, did not originate in any suggestion derived from it. Considering how long and generally tartarized antimony has been employed in medicine, with the intention certainly of producing a manifest evacuation, what more probable than that some individual should proceed to increase the dose, seeing that he could do so with safety and benefit to the patient, and should finally discover that, though the discharges ceased, the controlling power (a power with which we fully believe the salt to be endowed,) over fever and inflammation still continued! Is it not, moreover, not merely possible, but very probable, that the light which had thus gradually broken on one mind should, by a similar process, irradiate another? It is also but fair to Rasori to state, that Marryatt, although so strongly recommending the antimony in fever, and also in pleurisy, does not particularly direct it in pneumonia.

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* The first edition of this singular work was published in Latin, in 1758.

The historical part of M. Lepelletier's work, from the time of Rasori's publication to the present day, contains much interesting matter, and nothing more interesting than the conflict of medical opinion it displays; but we would add, that the interest is not of a purely pleasurable kind. We are presented with the opinions of twenty-two medical men, all of considerable, and some of them of very high reputation; and a greater divergence of sentiment regarding what many might deem a very plain matter of fact cannot be conceived. Their testimony regarding the matter under investigation is recorded, in the majority of instances, by themselves, in two or three cases by others, and as witnesses they may be classed thus: eleven favorable, six unfavorable, and five neutral, or of mixed opinions. In the first class stand Rasori, Laennec, Peschier, Bang, Wolfe, Fontanelle, Téallier, Trousseau, Franc, Delpech, Lallemand; in the second, Strambio, Félix Vacquié, Dance, Rostan, Andral, Bouillaud; in the third, Lemasson, Maury, Recamier, Broussais, and Chomel.

Some of the numerical details are not less curious than the general clash of opinion. Laennec lost but two cases out of fifty-seven; Bang, of Copenhagen, but two out of fifty-four, treated with tartarized antimony; whilst the employment of the same method enabled Peschier, of Geneva, to treat pleurisy and peripneumony for five years, when they were the diseases he most frequently met with, and twice prevailed epidemically, without losing a single case. M. Bouillaud, on the other hand, states that M. Dauvin had furnished him with a document, by which it appeared that, of fifteen individuals treated by M. Louis for pneumonia with emetic tartar, six perished; and this appalling mortality of one in two and a half he contrasts with the results furnished by large bleedings, under which treatment he makes the fatality range from one in eight and a half to one in twenty.

We feel quite convinced that other circumstances, besides the difference of the practice adopted, had conduced to this prodigious discrepancy: indeed, this is manifest; for the disproportion in the mortality is nearly as two and a half to one in the comparison of groups of cases treated by the same method,—that of copious bloodletting; but we regret to say, that we find no specification of particulars by which a knowledge of these circumstances can be obtained, and the degree of their influence calculated. On the contrary, we observe, from the great mass of evidence collected from various quarters by M. Lepelletier, and which extends over nearly sixty pages, an almost total absence of the details which alone could give it any value. The weight of great names is pretty nearly equal on both sides, and the testimony (with the honorable exception of that of M. Laennec, who specifies age and other particulars with great minuteness,) appears utterly useless, excepting that it is calculated to impress our minds with the necessity of improving the method of observing and recording medical facts.

The scope and method of the practice of Rasori, as stated by himself, we now subjoin; premising, that many who approve of the treatment of pneumonia by large doses of emetic tartar, would describe by the term *large*, quantities much less considerable than those which he would thus designate. He embodies his plan on the following propositions: "1. To treat pneumonia, from its commencement to its close, by emetic tartar. 2. To make of this medicine the principal, and sometimes the sole curative means of this disease. 3. To diminish by its use the number of bloodlettings, and to be able occasionally to dispense with them altogether. 4. To administer this medicine in doses such as the boldest practitioners have never thought of employing; carrying the quantity to a scruple, a drachm, and even many drachms, in twenty-four hours. 5. To employ often many ounces of the salt during the treatment of the disease. 6. Finally, to be able to say with certainty that these powerful doses of the medicine produce neither vomiting nor abundant alvine evacuations; and that sweats take place only under the same circumstances as when the ordinary methods of treatment are adopted."

On the power of supporting these large doses of emetic tartar, to which the name of "*tolerance*" has been given, M. Rasori thus expresses himself: "I shall observe, in the first place, that the fitness of the living organism to support large doses of the salt, without producing vomiting or any other symptom of powerful action on the intestinal tube, belongs only to its morbid state, is limited to this, and lasts only so long as this. The general morbid state, which I designate by the word *diathesis*, is that which in all cases constitutes the fitness of the living body to support with impunity, or, to express it more correctly, with utility, as I shall afterwards shew, the different doses of the medicine. Peripneumony, like all severe diseases, has its increase and its *apogee*, after which it progressively diminishes, if it is to have a fortunate termination. The aptitude of the patient to support doses of emetic tartar more or less strong follows the same variations; that is to say, that it is less at the commencement of the disease, increases till this has arrived at its highest degree, and diminishes progressively with it. It is necessary, therefore, that the doses of the medicine should bear a relation to these variations; but, if they exceed the fitness of the body to support them, should this occur even at the height of the disease, we shall certainly then observe a repugnance to a remedy which before was taken with ease, or there will be nausea and vomitings: in other words, we shall discover manifest indications of what may be called the excessive action of the medicine. I rarely begin with less than twelve grains, to be taken in the course of the day, and I cause this dose to be repeated for the night: when I see that the pneumonia has already made some progress, I give at first a scruple, or even half a drachm, and afterwards I go on increasing daily to one drachm, or even many drachms, according to the morbid state."*

It appears to us that we shall be rendering a more essential service to the reader by a tolerably full commentary on this passage, in which the more valuable parts of the contents of M. Lepelletier's work may be incorporated with such information relative to the practice in question as may have fallen under our own observation, than by a formal analysis of a volume, which, professing to be a compilation, consists, almost necessarily, of every variety of fact and opinion, gathered from all sorts of quarters.

1. The doses recommended by Rasori are not those generally adopted in this country or in France. The reader will have remarked, in the analysis of the work of M. Louis, that, in his practice, the individual doses ranged from about a grain to nearly two grains; whilst the total quantity administered during the day was from six grains to twelve. M. Laennec, to whose authority and influence any popularity this remedy possesses in the more northern countries of Europe is mainly attributable, began with a single grain every two hours, till six doses were taken; the patient was then left to repose for seven or eight hours, if the symptoms were not urgent, and he experienced any inclination to sleep. In more severe cases, he gave the medicine uninterruptedly at the same interval and in the same doses, or sometimes increased the dose to a grain and a half, two grains, or two and a half.† M. Lepelletier's experience accords with that of M. Laennec: he states that the dose best supported by adults is comprised between the terms of six and twenty-four grains daily.‡ Our own method of administering it agrees nearly with the same authority; our doses ranging from one grain to two grains, and these being administered every two or three hours. The quantities given by Dr. Marryatt were, within a trifling fraction, of the same amount. The period during which it is necessary to continue the medicine must vary according to the circumstances of cases; but its extremes may be stated to be a single day and nine or ten days; the dose, if altered during the period, being so in an ascending, not a decreasing ratio.

If the question be asked, why this deviation from the practice of Rasori? we would reply, that practitioners of this country and France adopt the dose which answers their purpose, and feel unwilling to accumulate needlessly in the system a medicine which Foderé, Magendie, Cloquet, Serres, Christison, and other high authorities, have proved to be poisonous. It may be remarked, too, that we at least have not witnessed any case in which an unfortunate result under the employment of the medicine could be reasonably attributed to a deficiency of the dose. It is the fact, likewise, that phlogoses in the north of Europe are generally sporadic; whereas, epidemics of pneumonia and other inflammations are not unfrequent in Italy, which may account for Rasori and Tommassini having been obliged to adopt a more *heroic* practice than northern physicians have found it necessary to follow; epidemic being in general less tractable than sporadic diseases.

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* Rasori, quoted by Bayle, Biblioth. Thérap. t. i. p. 196; and Lepelletier, p. 12-14.

† Laennec, translated by Dr. Forbes, p. 256, 3d Edition; and Lepelletier, p. 17-18.

‡ Ibid. p. 168.

The vehicle employed is a matter of comparatively little moment, provided it does not act chemically on the salt. M. Louis used, as has already been mentioned, the distilled water of the flowers of the linden-tree; M. Laennec, infusion of orange-leaf. In this country, patients prefer the medicine in *pure* water, and distilled water is, for obvious reasons, to be preferred. Given in this way, it has very little taste; and may thus be administered in cerebral affections and maniacal cases, without the patient being conscious that he is taking medicine at all. An ounce of water to the dose is a suitable proportion.

2. Are we to give it alone, or combined with opium? The Italian practice is to give it alone. Laennec and Louis both combined it with opium. M. Franc, pupil of Professors Delpech and Lallemand, of Montpellier, relates a case in which the latter of these distinguished men administered emetic tartar, combined with syrup of poppies, in a case of rheumatism: delirium and a state of extreme agitation ensued. M. Lallemand being obliged to be absent, M. Delpech took charge of the case, and, by giving the antimonial salt without this combination, no distressing accident occurred, and a cure was speedily effected. (*Lepelletier*, p. 54.) In our adoption of the one method or the other, we should be guided by the same considerations as would influence us to withhold opium from the treatment of acute inflammatory disease, or to resort to its use. We do not, therefore, add opium to the emetic solution, when it is employed at the outset of a disease; but, when the tone and excitement of the system are in some degree broken, and when the local affection exists rather in a condition of distress than of imminent peril, to a patient rendered nervous and irritable by disease of some continuance, and by debility,—when, for instance, there is cough, pain, or restlessness, which is complained of,—we then conjoin laudanum with the solution, in the proportion of about five minims to each dose. Under these circumstances it allays painful feeling, without impairing the efficacy of the principal remedy.

3. To what extent does emetic tartar deserve confidence as the sole remedy, independent of bloodletting, in pneumonia and other inflammations? Rasori, the apostle of the practice, and who employed the salt most abundantly, as we have shown, mentions it, in the paragraph of his work which we have quoted, as a means only of diminishing the number of bleedings, and *in some cases* of dispensing with them. Laennec says, "as soon as I recognize the existence of the pneumonia, if the patient is in a state to bear vene-

section, I direct from eight to sixteen ounces of blood to be taken from the arm. I very rarely repeat the bleeding, except in the case of patients affected with disease of the heart, or threatened with apoplexy, or some other internal congestion. More than once I have even effected very rapid cures of intense peripneumony without bleeding at all; but, in common, I do not think it right to deprive myself of a means so powerful as venesection, except in cachectic or debilitated subjects. I regard bloodletting as a means of allaying for a time the violence of the inflammatory action, and giving time for the emetic tartar to act." M. Lepelletier, among the numerous pathological facts contained in his volume, gives from various sources the details of twenty-four cases of pneumonia successfully treated by venesection and tartarized antimony conjointly, and of twelve failures by the same method; of thirteen fortunate ones by tartar emetic, and of two fatal by the same means. Of cases of rheumatism, he furnishes us with five fortunate results, and six failures by bleeding and antimony; by antimony alone, cures eleven, failures eight. These numbers, it ought to be remarked, are not to be regarded as any evidence of the comparative efficacy of the two plans, M. Lepelletier having gathered cases of any kind from any quarter, where he could find them detailed with sufficient minuteness. The cases are, however, valuable from the accurate manner in which they are reported, and because they show how necessary it is in certain instances to apply both these powerful agents to the accomplishment of our purpose. This is forcibly evinced by the evidence of Rasori himself, who, in one case of pneumonia quoted, employed as many as thirteen bleedings; and in this necessity M. Lepelletier concurs. To advert again to our experience, we would remark that in pneumonia we have always, when about to adopt the antimonial practice, directed one full bleeding of twenty ounces or more at the commencement of our treatment. In bronchitis, and we regard it as a remedy equally efficacious in this disease as in pneumonia, we have often confided to it solely, even in cases of considerable acuteness; though, not unfrequently, where the constitution has sympathized strongly with the local affection, one moderate bleeding has been premised. In cerebral and meningeal inflammation, in which diseases we think highly of its powers, it has been used conjointly with bleeding. In the more sthenic form of delirium tremens, a form which occurs in young and vigorous subjects, in whom the constitution is not yet thoroughly sapped by habits of inebriety, we have employed it without bleeding, except by leeches applied to the scalp. In this disease we have found it singularly efficacious, producing calm where opium has not only failed to do so, but has menaced the patient with convulsions. In what may be termed the sub-sthenic form of the same disease, in which opium alone does not mitigate the agitation or produce sleep, and tartarized antimony alone is equally inefficacious, a grain and a half of the salt with twenty minims of laudanum every second hour, is invariably found to accomplish the object, after a few doses have been administered. This form of delirium tremens constitutes an exception to the rules we observe in the association of opium with the salt, both as to the period of the disease at which the combination is adopted and the quantity of laudanum given.

4. What Rasori has termed *tolerance* of the medicine is a question which has been a good deal discussed, and as there is a difference of opinion regarding it between such high authorities as Rasori himself and Laennec, we are not disposed to pass it unnoticed. The following are the facts of the case. When emetic tartar is given in the doses we have described, vomiting ordinarily follows the first, and generally, too, the second dose, the bowels being sometimes simultaneously affected, sometimes not; whilst the two or three doses next ensuing produce purging. After this, the alimentary canal becomes tolerant of the medicine, and no evacuation is produced: so far, indeed, from catharsis being the effect, it is often necessary to suspend the employment of the antimonial salt in order that a purgative may be administered. What is here stated is the general rule, and we need not dwell on exceptions. Rasori attributes this tolerance, in a paragraph already quoted, to what he terms the *diathesis*, in other words to the inflammatory condition of the system. M. Laennec ascribes it to the largeness of the dose, to habit, and to the agreeableness of the vehicle, conjointly. Those who would learn M. Lepelletier's opinion, and, at the same time, behold a plain question obscured by a cloud of words, and all the worst forms of scholastic ratiocination; and arguments bestowed on exceptions and idiosyncrasies, which ought to be reserved for the general rule; are recommended to peruse the chapter on the subject which will be found diffused from page 185 to page 199 of his treatise.

We agree with Laennec in the opinion that this tolerance depends on a concurrence of circumstances; and these we take to be, that, within certain limits, large doses of the salt are less emetic than smaller ones; habit, and the inflammatory diathesis. This latter circumstance, we think with Rasori, is the principal cause of the tolerance. In fact we find that an inflammatory condition of the system renders it capable of supporting agencies, besides the action of antimony, which in health would be most powerful and highly prejudicial. This is evinced by familiar facts regarding the operation of mercury, cathartics, bleeding, cold, &c. under the condition specified.

5. Are there circumstances which forbid our employing this remedy in diseases to which in other respects it is applicable? The only circumstance known to us which should forbid its employment, is the existence, in any disease, of gastric irritation. This point, too, has been the subject of controversy. M. Laennec does not consider the existence of gastro-enteritis as a contra-indication of

the practice: nay, he says, that by means of it slight affections of that sort are dispelled. M. Broussais, as might be supposed, takes a contrary view, in which Lepelletier, Dr. Forbes,* and other authorities concur. Where such gastric irritation exists, we certainly would advise other remedies than the antimonial salt to be resorted to, or the gastric inflammation to be subdued by appropriate means before it is adopted. In a case of affection of the heart with violent bronchial inflammation, in which epigastric tenderness was simultaneously complained of, emetic tartar was administered. Not only was tolerance never established; but vomiting remained for some time after the salt was withdrawn, and was with difficulty subdued; whilst intense epigastric pain remained till the fatal close. In addition to the indications of cardiac and bronchial affections, the mucous lining of the stomach was found in some parts quite pulpy, and almost every where intensely vascular. It should be remarked, moreover, that the long-continued use of the salt induces redness and glazing of the tongue, and a sense of dryness and stricture of the fauces, which are tolerably clear indications that something of the same sort is, in all probability, existing in the stomach, since to its surface the tartarized antimony is so much longer applied than to that which is thus affected.

6. By what agency on the animal economy are the beneficial effects of this substance on certain inflammations produced? On this question, as on others, we have a host of opinions emanating from high authorities. Rasori, Tomassini, and Borda, consider it as a direct counter-stimulant, destroying the inflammatory diathesis. MM. Laennec and Duparque think it increases the activity of the absorbent system; whilst M. Téallier regards it as possessing a hidden curative property; an opinion in which M. Trousseau, on the whole, coincides. (*Lepelletier*, p. 180.)

So far as we have observed, we should consider its effects as an emetic to be of considerable benefit in certain diseases; in bronchitis, for instance, by clearing the air-passages of mucus; and in pneumonia and other inflammations the first evacuations, both by vomiting and stool, may not be without their advantages. Yet there is an agency independent of all this, and which appears after the tolerance is established.

There is a short chapter in M. Lepelletier's book concerning the ointment of Autenrieth (emetic tartar ointment), but it contains no information which is not perfectly familiar to all British practitioners. The application of the antimonial salt to the treatment of rheumatism is discussed at considerable length, but the corollary deduced from the facts collected is our best apology for not transferring them to our pages. "Emetic tartar," he says, "employed in the treatment of rheumatism, has, up to the present time, furnished only results of which the conclusiveness may be disputed, but on which he must not yet definitely decide, science requiring other facts to pronounce irrevocably on this question at a future period." (P. 224.)

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* See note in Translation of Laennec, 3d Edition, p. 267.

We certainly prefer the accurate observation, statistical method, and close induction of M. Louis, to the alien facts and more verbose reasonings of M. Lepelletier. It should be remarked, however, that the books of these two authors are in their scope and principle essentially different. M. Lepelletier's work is professedly a compilation of what he thought to be material facts, that he could find relative to his subject, with such deductions from them as he thought himself warranted in drawing. M. Louis not only frames his own inferences, but observes his own facts. Hence our opinion may be considered as rather an expression of general views as to the mode in which medical investigation should be conducted, than as a comparative estimate of the merits of the individual works. We recommend both to the reader; because we think an acquaintance with them calculated to improve his knowledge of that branch of therapeutics, the treatment of inflammation, which, though our stronghold, is far from the perfection it is destined, we hope, to attain. M. Louis' work is, moreover, worthy of his attention, not merely for the direct information it gives, but because it arms him with additional power to gather precise information for himself.

Art. IV.

Traité Clinique des Maladies du Cœur, precédé de Recherches nouvelles sur l'Anatomie et la Physiologie de cet Organe. Par J. Bouillaud, Professeur de Clinique Médicale à la Faculté de Médecine de Paris.—*Paris*, 1835. Deux tom. 8vo. pp. 534, 632.

A Clinical Treatise on the Diseases of the Heart, preceded by original Researches on the Anatomy and Physiology of that Organ. By J. Bouillaud, Clinical Professor to the Faculty of Medicine at Paris.

Notwithstanding the zeal and assiduity with which the physiology and diseases of the heart have of late years been studied, and the number of individuals of high and acknowledged talent engaged in such investigations, the subject is yet far from being exhausted; nor is our knowledge of it perhaps even yet brought up to the level of that possessed concerning many less important organs. Several points of great doubt and difficulty still agitate the medical world in regard to it; and, under these circumstances, it was with much satisfaction that we observed the announcement of the present work of M. Bouillaud, an author already so favorably known by his labours as editor and joint-author of M. Bertin's Treatise on the Diseases of the Heart, which appeared about eleven years since. The present is by no means to be looked upon as a republication of the former work: it may be said, however, to contain all that was really valuable in it, with an immense accession of additional facts; the practical part bearing the stamp of increased experience, and the theoretical portion, of matured judgment and more correct generalization. Some of the hypotheses which, in the former work, were put forward in too absolute and unqualified a manner, have here been to a certain degree modified, and the range of their application somewhat limited.

The foundation of our present knowledge of the diseases of the heart and great vessels appears to have been laid by Lancisi, Valsalva, and Albertini. Morgagni followed up the subject with great success; and about the same period Senac brought out his valuable Treatise on the Structure and Diseases of the Heart. When Lancisi pointed out the fact, that oppressions of the chest, and asthmatic affections, instead of being idiopathic, as formerly supposed, originated often in disease of the heart, he did a signal service to pathology. This idea was not lost on Morgagni, who gave it additional development and illustration, though its full importance was scarcely appreciated till the time of Corvisart. The last-named writer's Essay on the Diseases of the Heart forms an era in respect to this class of affections: his new division of aneurism of this organ, though not sufficiently comprehensive, nor altogether correct, had the merit of concentrating attention on the subject, and paving the way for the subsequent more accurate investigations of Bertin and others. His account of pericarditis, of vegetations and indurations of the valves, and the consequent contraction of the cardiac orifices, together with the revival of Avenbrugger's invaluable method of percussion, fully establish his claims to a distinguished place amongst the successful investigators of this class of diseases. He was speedily followed by Burns in this country, Testa in Italy, and Kreysig in Germany. Bertin, in a succession of memoirs presented to the Academy of Sciences, in 1811, and subsequently, brought forward some very original views as to the true nature and mode of formation of aneurisms of the heart, as they used to be called; and, not very long after, Laennec threw a brilliant light on the diagnosis of diseases of the heart, as well as of the other organs contained within the cavity of the thorax, by his happy discovery of auscultation. In 1824 appeared M. Bertin's Treatise on the Diseases of the Heart, mentioned above. Dr. Hope's work on the Diseases of the Heart and Great Vessels, with its ingenious investigations as to the motions and sounds of the former, appeared in 1832, and served to give a fresh impulse to this branch of medical science, which has possessed during the last few years a greater number of indefatigable and able cultivators than almost any other department of medicine. The names of Andral, Louis, Turner, Magendie, Williams, Corrigan, Pigéaux, Carlisle, Stokes, and many others, will occur to our readers, and justify the above assertion.

M. Bouillaud founds his claims to being considered a useful labourer in this field, on the following grounds: first, that he has been instrumental in giving additional development to many observations made by preceding enquirers in relation to this class of disorders, and thrown the light of analysis on many of the complex affections heretofore vaguely designated under the general terms of aneurism or organic lesion of the heart. It is thus, for example, that he claims to have demonstrated that the peculiar collection of symptoms, referred by Corvisart and his followers to hypertrophy or to aneurism of the heart, is in most cases merely an effect of certain lesions of the valves of this organ; lesions, of which the aneurism and hypertrophy should themselves also be viewed only as consequences.

Secondly, he conceives he has thrown a new light on acute inflammation of the pericardium, and that henceforward pericarditis, in relation to its causes, symptoms, progress, and termination, may be considered fully as well understood by us as pleurisy itself; a conclusion in which, we apprehend, many of our readers are not yet prepared to acquiesce; and which, indeed, the cases in the subsequent part of the work, (and we allude especially to those where an attempt has been made to contrast, and mutually to distinguish, inflammations of the internal and of the external lining of the heart,) scarcely bear out. The failure is most conspicuous in those instances of disease where the effusion is extremely limited in quantity. As to the etiology of pericarditis, he believes that, in a vast proportion of instances, the disease is connected with rheumatism; a source which, in a more limited sense, has long been recognized by practitioners here, though probably few will agree with our author in viewing it as one of the ordinary concomitants of acute articular rheumatism, or admit that it exists in at least one half of all such cases. Indeed, even in France, M. Bouillaud is considered to carry the matter rather too far in this respect; and Fouquier, Marjolin, and others of great experience, protest against such an extreme degree of latitude being given to a cause of which, in a more confined circle, they fully acknowledge the influence. In the treatment of this disease he thinks he has introduced a valuable improvement, in his mode of very copious and frequently repeated bleedings, in consequence of which recovery has been effected in a very great proportion of his cases; and death, which in Corvisart's time was the rule, has now, as he expresses it, become the exception.

Thirdly, he conceives that he has conferred on medical science an important benefit by his investigation of the inflammation of the sero-fibrous tissue lining the internal surface of the heart's cavities; a lesion which, prior to his enquiries, had excited so little notice as not even to have been thought worthy of name. On this disease, on account of its situation, he has bestowed the appellation of *Endocarditis;* and to his description of it he points with confidence as being at once the most original and valuable portion of his book; conceiving a knowledge of it to be of first-rate importance, as well on account of the frequency of its occurrence, which is much greater, he thinks, than most practitioners are aware of, as on account of the serious organic lesions of the cardiac orifices and their valves, as well as of the subjacent muscular structure, to which, if suffered to pass into its chronic stage, it tends to give rise. Its chief cause, like that of inflammation of the external covering of the heart, with which it so often coexists, is, he is satisfied, of a rheumatic nature; for it is a very frequent concomitant of acute rheumatism of the joints, and exposure of the body to cold when in an over-heated state is one of the most frequent conditions under which it arises. The obscure cases of arthritic asthma, as it was called, to be met with in the older writers, were, he believes, neither more nor less than instances of this affection in its advanced and chronic form.

The practical part of the work is prefaced by a detailed investigation of the anatomy and physiology of the heart, with a full exposition of its sounds, normal as well as abnormal, as also of those of the arteries, and a long discussion of the various theories of their production hitherto advanced. The pathological portion of the book is divided into two parts, the first of which consists of general considerations as to the anatomical characters and the precise seat of the various diseases of the heart; their physiological characters and their diagnostics; their causes; their nature and classification; their progress, duration, and probable termination; their treatment; and finally their complications, as well with each other as with diseases of other organs.

In the second part each affection of the heart is considered individually, and in the order of its place in the classification which M. Bouillaud has adopted; a classification which, though it appears to him better suited than any hitherto proposed to the actual state of our knowledge, he is far from considering as perfect. His first class comprehends such diseases as consist essentially in the lesion of the molecular actions of the heart ("actes intimes et moléculaires"), such as secretion, nutrition, &c. and consequently comprises acute and chronic inflammation *(Pericarditis, Endocarditis, Carditis;)* increase and diminution of secretion *(active Hydropericardium;)* increase and diminution of absorption, *(passive Hydropericardium, Hydro-pneumocardium;)* increase and diminution of the nutrition of the heart, *(Hypertrophy, Atrophy.)*

This second class consists of the neuroses of this organ, which he subdivides into those characterized by increase of action, hyperdynamia, (palpitations, spasm,) diminished action, adynamia, (swooning, syncope, &c.) irregularity of action, ataxo-dynamia, (inequality, irregularity, or intermittence of the pulsations.)

His third class comprises physical and mechanical lesions of the heart, (wounds, ruptures, dilatation, or contraction of its cavities or orifices, displacements,) &c. The fourth or last class consists of congenital malformations; whilst in an appendix there is an account of the coagulation of the blood within the cavities of the heart; or, in other words, of polypous concretions formed during life.

For the minute details of the cases, of which about two hundred are given, a great proportion of which are his own, he thinks no apology necessary; their increased length and fulness, as compared with those of most former writers, being the natural consequence of the extended state of our knowledge of these diseases. In regard to method, accuracy, sufficiency, or relevancy of detail, the cases in many late French works cannot be read and compared with the meager and hasty sketches of some of our own writers without exciting rather humiliating reflections, and affording ample conviction of the fact that the art of case-taking is as yet far from having been brought to the same general degree of perfection here; an inferiority which may in part be attributed to the little responsibility till lately imposed on the great majority of our clinical students, as well as to the somewhat discreditable fact that cases are too often taken with no other view than to swell the pages of a book got up under the influence of a desire for temporary notoriety and worldly advancement, rather than under the genuine inspiration of a love of science. To this, however, we need scarcely add that there are very many honorable exceptions.

In the present article, we shall only be able to review the first portion of M. Bouillaud's work; and we shall commence by noticing some of the more important points alluded to by our author in relation to the anatomy and physiology of the heart. After deprecating the unqualified assertion of Corvisart and Laennec as to the utter impracticability of accurately describing the heart, or of ascertaining the relative proportions of its parts with any thing approaching to mathematical precision; as well as that of Cruveilhier, as to the impossibility of determining the precise limit which separates the normal from the abnormal state; he endeavours to shew that we may, by numerous observations and carefully repeated comparisons, attain to a very adequate notion of the mean volume and mean weight of the organ. He reminds us that here, as in all other departments of medicine, the *approximative* calculus is the only one with which we have to do. He has accordingly gone through a very laborious series of measurements of the size of the several cavities of the heart in a great variety of subjects, differing from each other as to age, sex, &c.; as well as of the absolute and relative dimensions of the orifices of communication, their valves, &c.; and to the results at which he has arrived we shall presently recur.

A knowledge of the anatomical relation of the anterior inferior portion of the lungs to the heart is very important in regard to diagnosis, for it points out to us the natural limits of the dull sound on percussion of the cardiac region in the healthy state. The extent of this dulness corresponds to that portion of the pericardium and heart which remains uncovered by the spongy and resonant tissue of the lung: any morbid enlargement of the one, or effusion into the other, increases the exposed surface to an extent which is accurately indicated by the increased dulness. Our author, however, seems to have overlooked two possible sources of error. The augmented dulness on percussion, though a very valuable sign, is yet not an infallible proof of the existence of the lesions above alluded to; for the interposition of a portion of hepatized lung, or of any tumour between the pericardium in the front of the chest, or a partial pleuritic effusion confined by false membranes, and local adhesions, would give rise to the same physical phenomenon; whilst an emphysematous state of the lung in the same situation might cause an error of an opposite kind, as it would mask in some degree the existence of an enlargement of the heart or the presence of a fluid distending the pericardium. "The anterior inferior edge of the right lung in the natural state projects a little over the right side of the pericardium and corresponding portion of the heart; whilst the left lung, advancing similarly over the left part of the pericardium, covers a considerable extent of the left cavities. The portion of the pericardium which is ordinarily left uncovered is that corresponding to the two-thirds of the anterior surface of the right ventricle: it presents the figure of a lozenge, and is from an inch and a half to two inches square." In some very rare cases, however, almost the whole anterior surface of the heart is covered by the lung.

The tortuous disposition of the muscular fibres of the heart, which baffled Steno and many subsequent anatomists, has been more successfully investigated in later days by Wolff, Duncan, and Gerdy, who have shewn that the parietes of the ventricle consist of several layers differing in number for each ventricle. Of these layers there are, according to M. Gerdy, six in the left ventricle, and only three in the right; and hence the comparative thinness of the walls of the latter. The fibres of the external layers run obliquely from above downwards, from before backwards, and from right to left; the middle layers take in all respects the opposite directions; and the deep-seated ones, which by their union form the fleshy columns projecting into the interior of the cavities, are for the most part longitudinal. The most superficial layers, passing along the apex, occupy the entire circumference of the ventricles, whilst the others diminish in length and breadth in proportion as they follow a deeper course; and hence it is that the ventricles are so much thicker at the base than at the point of the heart. All the fibres, whatever may be their disposition in other respects, turn upon themselves in such a manner at the middle point as to form a species of loop, the convexity of which looks towards the apex of the organ: the more superficial the fibres are at the one extremity, the deeper seated do they become at the other: thus the most external fibres, for example, become before their termination the most internal, in consequence at once of their having been reflected in the manner just described, and also of having traversed the thickness of the ventricle. The extremities of these loops are invariably inserted at the base of the heart around the circumference of the auricular and arterial orifices of the ventricles, either immediately or, in a smaller number of instances, by the tendons attached to the auriculo-ventricular valves, (chordæ tendineæ). The auricles, which are likewise of a very complicated structure, are, according to the same authority, composed of two muscular layers, the one external, the other internal. In the right auricle the muscular tissue, being less abundant than in the left, leaves occasional intervals between its fibres where the internal and external membranes of the heart are in almost immediate contact; and this proximity, which is best seen in the hearts of individuals in whom the right auricle has been considerably dilated with thickening of the muscular fibres, is turned to account by M. Bouillaud in a subsequent part of his work, as helping to explain the frequent coexistence of inflammation of the internal lining of the heart with that of the pericardium. The conclusions which have been arrived at by Mr. Carlisle as to the structure of the heart approach very nearly to those of M. Gerdy, whilst M. Filhos, on the other hand, still calls in question the continuity of the external with the deeper seated fibres; it appearing to him that, after turning from right to left and from above downwards in a spiral direction near the apex of the ventricle, they terminate in a well-marked raphé, from which the internal fibres likewise take their origin. The direction of the fibres of the right ventricle, moreover, he conceives to differ very materially from those of the left, forming semi-ellipses, of which the extremities are directed upwards and the concavity downwards. It appears to us, however, from the examination of the heart of a large animal, the fibres of which had been rendered more easy to disentangle by long continued boiling, that the opinions of the former of these observers are more correct than those of M. Filhos; and such seems likewise to be the conviction of M. Bouillaud.

The columnæ carneæ are much more numerous, but smaller, in the right ventricle than in the left, though the contrary has been inadvertently stated by Laennec. The muscular pillars into which the chordæ tendineæ of the valves are inserted are, according to our author, specially destined to raise the valves from the flattened position against the sides of the ventricles, and thus to effect the closure of the auriculo-ventricular orifices; but he is here in contradiction with Bichat and other celebrated anatomists; and it seems to us that, in his attempts to make out this point, he is not very clear or satisfactory.

The chordæ tendineæ are not the only examples of fibrous or albuginous tissue within the heart; for it exists also in the whitish zones or rings at the base of the valves, forming the contour of the orifices; also within the duplicature of the valves themselves; and it is this structure especially which is so frequently the seat of cartilaginous and osseous transformations. The existence of such a tissue here, taken conjointly with the sero-fibrous nature of the envelope of the heart, enables us the more readily to understand why rheumatism should so frequently make its attack on this organ. The internal lining of the heart, or endocardium, as M. Bouillaud names it, and which is to the inner surface of the organ what the serous layer of the pericardium is to the outer, has been too slightly attended to by anatomists and pathologists; though, according to him, its diseases are perhaps even more frequent than those of the pericardium itself. These have been hitherto almost entirely overlooked or misunderstood in the acute stage, and thus permitted to pass into the chronic; and he conceives that he is guilty of no exaggeration in asserting that the affections of the endocardium are by far the most frequent starting-point of those organic lesions, as well of the valves as of the cavities of the heart, formerly, and even still at the present day, confounded together under the vague term of aneurism. The endocardium, in its natural state, is whitish, semitransparent, and pellucid, like the serous membranes; and, like them too, it readily receives by imbibition the reddish staining so often observable under certain conditions in the interior surface of the heart. Its thickness does not exceed that of the most attenuated serous membranes, the arachnoid, for example; and it is somewhat more delicate in the right cavities than in the left; whilst, at the arterial and auriculo-ventricular orifices, it is obviously somewhat thicker than elsewhere: it is in these portions especially that the effects of chronic inflammation take place; and amongst these are to be reckoned the thickening, not merely of this membrane itself, but also of the subjacent cellular and fibrous tissues. Under this influence it sometimes acquires the consistence of a fibrous membrane; and we may then often discover several successive layers placed one over the other, as is so frequently the case after inflammation of the serous membranes, to which this bears such an analogy; whilst, at the same time, it is obvious, on careful inspection, that only one of these, namely, the deepest-seated, really constitutes the membrane in question, the other layers being merely organized pseudo-membranous matter. These false membranes, in their organized state, for the most part present themselves only in a partial or disseminated form, constituting the whitish patches analogous to those so often observed on the pericardium. In some cases, again, the apparent thickening of the endocardium depends on hypertrophy of the subjacent cellular tissue. In the healthy state, this membrane adheres so firmly to the cellular tissue that it can be detached only in very small shreds; whilst, in certain morbid conditions, on the contrary, we can easily raise it in considerable patches. On the valves, its adhesion is particularly firm, and it is scarcely possible to separate their two layers from one another, or from the fibrous tissue contained within them, save at their base, where they separate to receive the tendinous ring which borders the orifices. At this point, too, as well as in that already indicated, the external and the internal membrane of the heart are almost in contact with one another, and this forms an additional explanation of the frequent coincidence of external and internal inflammation of the heart. In its normal state, the endocardium is perfectly smooth and polished, but, by certain morbid affections, may be rendered rough and uneven; and, when in this condition, the friction of the column of blood over it will necessarily be increased.

To M. Bouillaud's original researches as to the weight and volume of the heart in general, the absolute relative dimensions of its walls, cavities, orifices, and valves, we have already alluded. He conceives that Laennec's assertion as to the equality of the several cavities of the heart in the natural state is not strictly correct: for, in most subjects, he has found that the cavities of the right side exceed in capacity those of the left; as also that the auricles usually surpass the ventricles; and, with regard to the ventricles themselves, it has appeared to him that the difference is greater than could fairly be attributed to the distention of that of the right side, by the accumulation of blood in it during the last struggle of nature; and Legallois has observed a similar difference in the lower animals, even when killed by hemorrhage, though it is somewhat less marked than in those which have been put to death by asphyxia, or any other means that, like it, by embarrassing the circulation, favour such accumulation.

With regard to M. Cruveilhier's assertion, that the existence of hypertrophy of the left ventricle should be admitted whenever its walls have attained to the thickness of seven or eight lines, M. Bouillaud very properly points out a deduction which is to be made in regard to these cases, when, a state of general anæmia or marasmus having existed, the heart, though really atrophic, has, in order to accommodate itself to the diminished quantity of blood passing through it, become contracted on itself, and thus given to its parietes an apparent thickness of eight or even of ten lines; and, when the author just alluded to makes five lines the lowest limit of hypertrophy of the right ventricle, (though, leaving this peculiar case out of view, *three* lines would, according to M. Bouillaud, have been nearer the mark,) a similar reservation is applicable. The mean weight of the healthy heart in the adult is stated by Cruveilhier at six or seven ounces, which approaches pretty closely to that assigned it by our author.

M. Lobstein, of Strasburgh, attributes the following mean weight and dimensions to the healthy adult heart, which in some particulars differ considerably from those given above, as well as from those attained to by M. Bouillaud, afterwards to be mentioned.

Weight of heart	9 to 10 ounces.
Length from base to apex	5 inches 6 lines.
Breadth at the base	3 inches.
Thickness of walls of left ventricle	7 lines.
Ditto at a finger's breadth above the apex	4 lines.
Thickness of walls of right ventricle	2¼ lines.
Ditto at apex	½ line.
Thickness of right auricle	1 line.
Ditto of left auricle	½ line.

M. Bouillaud is of opinion that the hearts from which some of these deductions were made could not have been in a natural condition; for the thickness of the right auricle, in place of being double that of the left, as in the above table, is really generally inferior to it; and a heart weighing ten ounces, if belonging to an individual of an ordinary size, must have been hypertrophied. M. Bouillaud weighed the hearts of thirteen subjects, in which, from the general habit, the previous state of health, and the mode of death, there was every reason to think they were in the natural state. The mean of all these weights was eight ounces three drachms; the maximum about eleven ounces, but that was in an individual of colossal size and very strong constitution; the minimum was but six ounces two drachms, but it was the heart of a boy of only sixteen years of age, whose body had not yet attained to its full degree of development. From these data he is led to fix the mean weight of the heart in the adult, from the twenty-fifth to the sixtieth year, at from eight to nine ounces. The weight of the heart in women is generally less than that in men; he has not, however, yet ascertained in what exact proportion. In his investigation, it is to the *absolute* weight of the heart he has alone had regard; but he alludes briefly to the experiments of M. Jules Pelletan, as to the difference of its *specific* gravity in different individuals, proving that the weight and the bulk are by no means always in a direct ratio.

With regard to the dimensions of the heart, out of seven cases examined by M. Bouillaud, the mean circumference, measured round the base of the ventricles, was eight inches nine lines; the mean length of the heart in nine cases, measured by a line joining the root of the aorta to the apex, three inches seven lines and a third; the mean breadth at base, measured in eight subjects, was three inches seven lines and a half; the mean thickness of the walls of the left ventricle at the base, six lines and a half; maximum, eight lines, minimum, five lines; the mean thickness of the right ventricle at the base, two lines and three fifths; maximum, three lines and a half, minimum, one and a half. Thus, in adults, the mean thickness of the left ventricle may be stated, in round terms, at seven lines, and that of the right at two lines and a half; or in the proportion of nearly five to two. In infancy no such great disproportion exists; and in the fœtus the walls of the two ventricles are, as is well known, nearly equal in thickness. The mean thickness of the left auricle, measured in four subjects, was found to be a line and a half; the maximum two lines, and minimum three quarters of a line: whilst the mean of the right auricle was only one line; the maximum one and a half, and the minimum half a line; the parietes of the left thus exceeding that of the right by about one-third.

The capacity of the ventricles was not very accurately ascertained, but it may be roughly stated that, in their natural condition, they are of a size capable of holding a hen's egg; the left, however, being obviously a little inferior to the right, as above stated. The right auricle also appears generally slightly to surpass the left in magnitude.

The mean circumference of the left auriculo-ventricular orifice, measured in three subjects, was three inches six lines and a third; that of the right, three inches ten lines. The mean circumference of the ventriculo-aortic orifice, as measured in four subjects, was two inches five lines and a half. The mean circumference of the ventriculo-pulmonary orifice, in the same individuals, was two inches seven lines and three quarters. Thus, it appears that the auriculo-ventricular orifices usually surpass the openings of the aorta and pulmonary artery; and that, of the two latter, the circumference of the second generally excels the first in a slight degree.

M. Bouillaud next proceeds to detail his measurements of the length and thickness of the several valves of the heart, which we have not room to notice at length here. He also gives a long list of the weights and measures of hypertrophied and atrophied hearts, for which we must refer the reader to the work itself. The weight of the largest hypertrophied heart he has met with was more than thrice the mean normal weight, and five times that of those in a state of extreme atrophy. The largest heart mentioned by M. Bouillaud, and which he compares to that of a calf, though taken from a woman of an extremely slight make, was found to weigh 688 grammes, or about a pound and a quarter. M. Lobstein speaks of one which weighed about two pounds, that is, 312 grammes more than the above; but it is possible that it was weighed previously to removing the clots of blood within it, which occasionally amount to about one-third of the gross weight. Of six hypertrophied hearts, the greatest circumference at the base was twelve inches; the greatest length, five inches three lines; the greatest thickness of the left ventricle, one inch one line; that of the right, four lines and a half. Of three cases of hypertrophy of the left auricle, the maximum thickness was only two and a half lines, or about a line more than in the normal condition; whilst in the right auricle, in the same morbid state, a somewhat greater difference was occasionally found. Of concentric hypertrophy, one of the most remarkable examples given was one in which the heart weighed about twelve ounces, and yet the right ventricle would scarcely have held a pigeon's egg, or the left have admitted the forefinger into its cavity; whilst in another case of hypertrophy, which was of the excentric or true aneurismal kind, the heart weighed about fifteen ounces, the left ventricle was capable of holding an ostrich's egg, and the right was very nearly equally capacious.

Of atrophy of this organ, one of the most striking instances met with was in a woman who had died in a state of extreme emaciation from scirrhus pylori: the heart, which appeared much shriveled, weighing only about four ounces (135 grammes); the left ventricle would hardly admit the little finger, and the right was very little larger.

As the heart of the human subject, when in an extreme state of hypertrophy, has sometimes been compared to that of an ox, the weight and some of the dimensions of the latter have, as a matter of curiosity, been inserted by M. Bouillaud, in a note. After it was separated from the great vessels, and all the blood had been carefully washed out of it, it was found to weigh nearly four pounds; the circumference at the base was eighteen inches; the length, seven and a half inches; the thickness of the wall of the left ventricle, one inch eight lines; that of the right, five or six lines; the right auricle, three lines, &c. In the duplicature of the lining membrane of its valves, there was found not merely fibrous tissue, but also some reddish muscular fibres, which were prolonged at the base of the valves into the fleshy substance of the heart: this was most obvious on the left side. The tendinous zones were very well developed, and at the base of the bicuspid valve there projected from beneath the lining membrane a sort of bony process, the base of which sank to the depth of an inch into the substance of the heart, widening out to the breadth of five or six lines as it descended. This, which M. Bouillaud seems to have mistaken for an accidental or morbid growth, is a natural structure, has been alluded to by Meckel and other comparative anatomists, and lately more fully described by Mr. Harrison, of Dublin.

The approximate results in respect to the mean weight and dimensions of the human heart, in the natural and morbid condition, which we have detailed above, though they are very important, and indicate great industry and zeal for science on the part of our author, are yet scarcely based on a sufficient number of individual instances to warrant our receiving them as settled standards of appeal; but it may fairly be expected that, when several observers, who possess an equally extensive field for observation, shall have instituted a similar series of experiments, and combined their results, such a standard, of some practical value to the morbid anatomist, may eventually be made out. In the mean time, even considered as approximations, they cannot fail to be valuable to the student of pathological anatomy; and we have therefore, at the risk of being considered tedious, given them in considerable detail.

The details will be best appreciated by those most inclined to pursue such enquiries.

When speaking of the morbid anatomy of the heart, M. Bouillaud very justly censures that slovenly method of dissection, (now, we trust, almost extinct,) which consists in merely cutting the heart across, and from such a section attempting to appreciate its several lesions; instead of slitting up its several cavities in regular succession, and carefully examining their absolute and relative capacities, —the condition and quantity of blood within them,—the thickness of their walls,—the state of their orifices, valves, tendons, fleshy pillars, and lining membrane,—of their vessels; in short, of every thing which enters into their structure.

In his chapter on the Motions of the Heart, one of the most important in the whole work, he commences by dividing them into the external or visible, and the internal or concealed, (valvular motions, &c.) In his historical view of the progress of opinions in respect to this branch of physiology, he goes back no farther than Haller: he alludes to Harvey but twice, we think, in the whole course of the work, and then in such a manner as not to impress us with the belief that he has ever read his works; both the passages cited by him being, if we mistake not, also given by Laennec, in whose book they might easily have been caught up at secondhand. We would not, however, quarrel with him on this account, were it not that Harvey's work not only was, but still is, one of the best on the subject of the heart's motions. Being written in the true spirit of the Baconian philosophy, and founded on experiment and observation, the conclusions detailed in it are in many points more correct than those which have been adopted by some physiologists of our own day: as, for instance, with regard to the coincidence of the contraction of the ventricles with the impulse against the chest, and the projection of the column of blood into the great arterial trunks, and also as to the precession of the auricular motion. He was, moreover, evidently aware of the fact which has been turned to so much account by Laennec, namely, that the motions of the heart are accompanied by distinctly audible sounds, "pulsam fieri et exaudiri in pectore contingit;" and compares the noise so produced to that heard in the throat of the horse while drinking. He combated successfully the opinion prevalent in his time, and supported by the great authority of Vesalius, and recently revived, that the beat of the heart was effected by the dilatation or diastole of the organ; as well as that its filling was the result of an active muscular expansion taking place in the walls of the ventricles.

Haller correctly described the contraction of the auricles as preceding that of the ventricles, the action of the latter being, in its turn, immediately succeeded by a period of repose. His view of this matter, which is certainly the true one, was departed from by Laennec, who conceived (probably on theoretical grounds, rather than from actual inspection of the action of the heart in a living animal,) that the auricular contraction followed that of the ventricle, intervening between the latter and the interval of repose; thus enabling him to account satisfactorily, as he thought, for the second or clear and short sound, as heard by the stethoscope. Mr. Turner brought us back to the older and true opinion, which has likewise been successfully advocated by Drs. Corrigan and Hope, and nearly all the latest and best writers on the subject; and is now adopted by M. Bouillaud, as being firmly and finally established. Whilst on this subject, our author alludes, in terms of merited approbation, to the labours of Dr. Hope, whose valuable work on the Heart he seems to have studied with much care.

The cause of the stroke of the heart against the side of the chest has lately given rise to numerous discussions. Dr. Corrigan and M. Pigéaux have ascribed it to the sudden swelling of the ventricles, on the injection of the blood into them in their diastole; a conclusion to which they were led, partly from observing that the arterial pulsations are posterior in point of time to the thoracic impulse, and partly from the difficulty of conceiving how the contraction of the ventricles could bring them in contact with the parietes of the chest. This opinion, which is, as we have seen, but the revival of an old and exploded hypothesis, has, as we observe by the minutes of the late meeting of the British Association at Dublin, been already abjured by one of its original advocates, influenced as well by his further investigation of the subject as by the arguments and experiments which have been brought to bear against it by various recent writers; and his relinquishment of it, and manly announcement of the same, display a candour and an openness to conviction which do him infinite credit.

The arterial pulse is no doubt felt distinctly subsequent, by a short interval, to the beat of the heart in parts at some little distance from this organ; but, as the space of time which intervenes between them decreases rapidly as we approach the heart, and near the origin of the great vessels is no longer observable, the fact does not really militate in any degree against the now almost universally received theory, which ascribes the impulse of the heart to the ventricular contraction. Indeed, the matter has been put to the test of direct experiment; for, in the report of a committee recently appointed by the British Association of Science to investigate the sounds and motions of the heart, published in the September number of the Dublin Journal of Medical Science, we find it stated that, "when the ventricles assumed their hardened state, their apex and a considerable portion of their anterior surface were closely applied to the sternum; and, when the hand was interposed between the latter and the surface of the ventricle, a strong compression was exercised on the fingers during each approach of the ventricles to the front of the chest." A similar observation was made by Dr. Hope in his experiments. It is mentioned, moreover, that when "a small glass tube was introduced through a puncture in the right ventricle, a jet of dark-coloured blood was thrown forth during the globular and hardened state of the ventricles, and subsided when they became flattened and soft. A puncture was made in the pulmonary artery, close to the ventricle from which it arises, and through it a stream of blood issued synchronously with a jet from the tube in the right ventricle." From these experiments, taken conjointly, it appears to be incontrovertibly proved that the hardening of the ventricles is identical with their contraction or systole, with the beat of the heart, and with the arterial pulse in the commencement of the great vessels. The jet from the distant arteries,—the mesenteric or femoral, for example,—was observed to be posterior by an appreciable interval to that from the ventricle; a want of synchronism ascribable to the yielding and elastic nature of the walls of the arteries, which converts the direct or onward impulse of the column of blood into a wave-like or intermittently progressive motion. Were their walls, on the contrary, of rigid and unyielding materials, the mass of fluid, from its incompressibility, would be moved forward in totality, and the pulse would then really be synchronous all over the body, as it was supposed to be by Harvey and others; but, as it is, a portion of the onward impulse is expended, and time consumed, in dilating the arterial parietes, which again react, so as, by their alternate yielding and resiliency, to produce a pulsatile and wave-like motion.

According to M. Bouillaud, the stroke of the heart is effected by the apex alone; for, in three experiments made by him on the subject, he constantly observed that the point of the heart turned up towards the side of the chest during the systole of the ventricles, and that no real change of place of the entire organ occurred; and such is also the opinion of Dr. Williams of London, and of Dr. Hope. The experiment of the Dublin committee, detailed in a preceding paragraph, goes, on the contrary, to prove that the body of the ventricle, as well as its apex, is concerned in giving the impulse. In cases of morbid enlargement of the heart, but in them only, M. Bouillaud admits that the whole mass of the heart strikes against the thoracic parietes. In certain morbid conditions of the organ alluded to by our author in a subsequent part of his work, he conceives that the ventricular diastole likewise may sometimes cause a slight impulse, and even supposes that the contraction of the auricles may occasionally have a similar effect. He objects altogether to Senac's complicated explanation of the beat of the heart, according to which it was supposed to depend on the joint action of three causes,—namely, on the dilatation of the auricles at the same moment that the ventricles were contracting, together with the simultaneous dilatation of the aorta and pulmonary artery by the blood entering them; and also on a tendency in the arch of the former to straighten itself from the sudden impulse and direction of the fluid in relation to its curvature, (the tilting forwards of

Hunter.) To any one who has ever grasped the heart of a living animal in his hand, it must appear evident, we think, from the force with which his fingers are separated in its contraction, that the cause of the stroke resides in the ventricles themselves, and consists solely in their systole; at least, that this alone is quite adequate to its production. M. Filhos goes still farther, and asserts that the impulse depends on the left ventricle alone, by which the point of the heart is exclusively formed; and endeavours to account for it by the peculiar spiral arrangement of the muscular fibres near the apex of this ventricle; but to this view of the matter we cannot assent, both because the impulse to which we have just alluded is felt on both surfaces of the heart, and, as our own observation would lead us to think, is by no means confined to its apex, (and this is peculiarly obvious at the termination of a forcible expiration, more especially when the body is in a prone position, and turned a little on the left side; under which circumstances the whole mass of the organ seems to come into very extensive contact with the parietes of the chest;) and also because the shock of the heart may be very considerable in those cases of hypertrophy of the right ventricle where the cavity comes to form alone the entire apex of the organ.

As to the dilatation of the ventricles, it is ascribed, and we think correctly, partly to the elasticity of their fibres, and partly to the injecting powers of the auricles. The influence of the latter, however, is not rated very high by M. Bouillaud, who thinks that, had much depended on it, nature would have furnished the auricles with an ample valvular apparatus, against which to act, at the great venous orifices.

He next discusses the principle of the motion of the heart, and concludes, from the number of nervous branches transmitted into its structure, that this resides in the nervous system. Haller, as is well known, attributed it entirely to irritability, or a peculiar power inherent in the muscular fibres themselves. Bichat referred the origin of its motion to the ganglionic system; an opinion which was subsequently combated by Legallois, who, from numerous experiments, was led to place it in the spinal marrow: but there is every reason to think that his manner of viewing the subject was too exclusive, and that it is not on this portion of the nervous system that its motions immediately depend. Thus, M. Lallemand has observed that the heart beats in the fœtus, though wanting the spinal marrow; and Dr. Wilson Philip, Mr. Clift, and M. Breschet, have seen the pulsations of the heart continue after the destruction of this portion of the nervous system alluded to, and more especially when young animals were the object of experiments, and when the injury was inflicted slowly. M. Breschet thinks he has established the opinion of Willis and Bichat by certain experiments, in which the heart's action was immediately cut short by the section of the cardiac plexus on removal of the cardiac ganglion, and looks upon it as being now a settled point that the primary cause of the vital action of the heart resides in the ganglionary system. M. Magendie, however, has been less fortunate in similar experiments instituted with the same view; for the violence of the operation necessary for the extraction of the cervical ganglions and of the first thoracic one, was so immediately followed by death, that he could make no satisfactory deductions as to the influence exerted thereby on the heart.

M. Humboldt found that the muscular contractions of the heart removed from the chest were rendered much more frequent and forcible by means of galvanism, applied to one of the cardiac nerves laid bare by dissection; and Home and Weinhold observed a similar result from irritating the great sympathetic, and establishing the galvanic current through the medium of one of the thoracic ganglia, detached and turned up on the heart. That injury of the spinal marrow has, notwithstanding all this, great influence on the heart's action, is admitted in the work before us, but ascribed to the sympathy of that portion of the nervous system with the ganglia of the sympathetic. The story of Colonel Townsend, who is said to have had the power of voluntarily stopping the action of his heart, is doubted by M. Bouillaud, but we think without sufficient cause.

In his elaborate analysis of the sounds of the heart and their causes, our author enumerates four conditions, one or other of which may be conceived as being concerned in their production: viz. the impulse of the heart against the side of the chest; its friction against the pericardium; the passage of blood through its cavities; and the alternate rising or falling of its valves: and to these we would add a fifth, the sound of muscular contraction (*bruit musculaire,*) which in a muscle, the contractions of which are so energetic, may be considered capable of being very audible. Before entering into this part of his subject in detail, he meets the point as to whether it be possible to distinguish clearly from one another the sounds caused by the action of the right side of the heart from those of the left, and concludes with Laennec in the negative, as far as the normal condition of the organ is concerned; whilst he freely admits, at the same time, that, in certain diseased states, we may determine not only to which side of the heart the anormal sound belongs, but even in which of the orifices, the arterial or auriculo-ventricular, it takes place. If we endeavour to ascertain precisely the seat of each of the two sounds, the long dull sound and the short clear one, we shall find, says he, that the first has its maximum of intensity immediately below and rather to the outside of the nipple, that is, in the point corresponding to the mitral valve; and that the maximum of intensity of the second sound exists immediately above and to the inner side of the nipple, or in the point corresponding to the sigmoid valves.

M. Laennec has greatly under-rated the extent of surface over which the sound of the heart is audible in the normal condition: thus, even in thin narrow-chested subjects and young children, in whom it is the most extensively heard, he limits it to the sternum, the anterior and upper part of the chest on the left side as high as the clavicle, and less sensibly over the same portion of the right side; whereas M. Bouillaud has, many hundred times in such subjects, heard it not only in the situations above mentioned, but also in all the other regions of the chest, not excepting even the right posterior regions; as also in the lateral portions of the neck, and here sometimes almost as loudly as in the præcordial region. These sounds become augmented or diminished, not merely in peculiar morbid states of the heart itself, but are also, as pointed out by Laennec and subsequent writers, capable of being modified both as to their situation and intensity by the condition of neighbouring organs, independently of any disease in the central organ of the circulation. For example: the sounds are transmitted in a much more intense form through a hepatized lung, or one condensed by the pressure of a fluid in the pleural sac; through tubercular masses or tumours, or through the indurated walls of a tubercular cavity; and the place where the beat of the heart is felt and its sounds are heard may be quite changed by the presence of a large pleuritic effusion.

As to what is the true theory or explanation of the sounds of the heart, M. Bouillaud admits that, notwithstanding the numerous discussions which have taken place on the subject, the majority of physiologists are still undecided. He hopes, however, in the present work, if not to have finally settled the question to the satisfaction of all, at least to have succeeded in removing a portion of the obscurity with which it was enveloped. He commences by giving a rapid sketch of the various opinions which have been brought forward on the subject. 1. M. Laennec, though he abstained from offering any thing like an explanation of the matter, so far as the normal sounds are concerned, yet, seeming to anticipate that they would by others be attributed to the concussion of the heart against the thorax, insists on the fact which, if universally true, is hostile to this view, namely, that the sound is loudest when the ventricles are thinnest and the impulse consequently feeblest. 2. M. Pigéaux ascribes the sounds to the friction of the blood against the sides of the cavities in the one case; and against the walls of the great arterial trunks on the other: the first producing the long dull sound, which he erroneously conceives to be coincident with the ventricular dilatation; the second, the sharp clear sound, which, with similar incorrectness, he supposes to be synchronous with the ventricular contraction. Views of the same kind were also advocated by Drs. Corrigan, Stokes, and Hart. 3. M. Marc D'Espine asserts that both the sounds are the simple effect of the systole and diastole of the ventricles, and quite independent of the play of the valves, the friction of the blood, &c. 4. M. Rouanet attributes both the sounds to valvular action; the first to the sudden sonorous distention and mutual collision of the auriculo-ventricular valves during the systole of the ventricles; and the second, or clear sound, to the reaction of the column of blood against the sigmoid valves: and this is the theory, too, which, with a few slight modifications, the author of the work before us adopts. The sudden extension of any thin membrane or artificial tissue gives rise, as M. Marc d'Espine remarks, to an audible sound, clear in proportion to the tenuity and unyielding nature of the texture; and in both these respects the cardiac valves are well qualified to produce sonorous vibrations.

To prove that the second sound may depend on the falling back of the blood against the sigmoid valve, he adduces the following direct experiment:—He fixed the end of a short glass tube, of an inch bore, into that portion of the aorta which is immediately below the sigmoid valves, and attached the other end to a bladder full of water. Into that part of the artery which lies above these valves another tube, of the length of four feet, was fixed: it being made so long in order that the weight of the column of fluid should be sufficient fully to compensate for the reacting force existing in the natural state. The portion of the artery corresponding to the valves was then seized in one hand, and held close to the ear, whilst with the other hand the bladder was suddenly compressed at intervals, so as to jerk up the fluid, and thus in some degree to imitate the heart's projective power. Each time that the pressure on the bladder ceased, and the column of liquid was allowed to fall back on the valves, a sound very analogous to the second sound of the heart was heard; as much so, in short, as could be expected under the great dissimilarity of circumstances,—the absence of the resonance of the thorax, the want of the vital reaction of the tissue, and of the compression of neighbouring organs. Dr. Corrigan, however, states his having recently made a somewhat similar experiment with a very different result. He cut out from the heart of an ass the ascending aorta, with its valves, and "tied it on the end of a leaden tube, of a corresponding diameter, and about five feet long. About two or three inches of the aorta then being free from the lower extremity of the tube, in this state, holding the sides of the aorta together below, he filled the tube with water, and then, placing the thumb on the upper end, so as to close it, the fingers were withdrawn from the lower end, and the upper end still remaining closed, the external pressure of atmospheric air kept the two sides of the aorta below together, and no fluid escaped. The ear was then applied to the lower end of the tube, close to the aorta, and, the thumb being suddenly withdrawn from above, the whole column of fluid came suddenly down, and distended the aorta and valves; and yet there was no sound whatever similar to the second produced. He attached to the end of the leaden tube a piece of sounding-board, to assist the ear, and the result was the same as before."

It is difficult to reconcile the very different results of these two experiments. The arrangement in the experiment of M. Rouanet obviously approached much nearer to the natural state of things than in that of Dr. Corrigan, where the commencement of the aorta, in place of being constantly in a tubular and more or less distended state, as it always is during life, was in a collapsed condition, with its opposite sides in close contact, from the effect of atmospheric pressure. The throwing back of the valves in the latter case would take place under totally dissimilar circumstances to what it does in the natural state.

5. Dr. Hope attributes the first sound (we may now say *attributed,* but his late Appendix had not been seen by M. Bouillaud when the present work was published,) to the collision of the molecules of the blood amongst themselves; numerous and diversified currents being produced therein by the irregularity of the internal surface of the ventricles, columnæ carneæ, &c.;—and the short clear sound to the reaction of the walls of the ventricles on the blood thrown into them by the auricles; the fluid receiving a sudden check on the former cavities reaching their extreme limit of extension.

6. M. Magendie ascribes these sounds to the double impulse of the heart against the walls of the thorax: the first, or dull sound, being caused by the stroke of the apex in the systole; the second, or short clear one, by the body of the heart coming into forcible contact with the sternum in the diastole; its superior clearness being attributed by him to the greater sonoreity of the sternum, as compared with the cartilages of the ribs. He asserts, moreover, that the heart's action produces no sound if the sternum and ribs be removed, and its external impulse thus prevented: but here he is certainly in error, as we shall afterwards see.

7. M. Piorry has advanced the notion, at variance with the observation of nearly every one who has occupied himself on the subject, that the ventricles do not contract simultaneously, and that the dull sound is produced by the left ventricle, and the clear one by the right. For any one who wishes to convince himself of the incorrectness of this hypothesis, it is only necessary to introduce a small tube into each of the ventricles of a living animal, or into the pulmonary artery and aorta, close to their origin, and observe the perfect synchronousness of the jets from each; or, what is still simpler, merely to grasp the heart in the hand, and feel (as we have often done) the simultaneous hardening of the two ventricles in their systole.

8. Mr. Carlisle has endeavoured to account for the first sound by the projection of the blood against the walls of the great vessels, and for the second by the reaction of the fluid against the sigmoid valves. But, as the first sound persists after the great vessels have been cut across, the first portion of his hypothesis appears untenable, and has, we believe, been relinquished by its author.

To the above theories we may add that of Dr. Williams, one of the most indefatigable and cautious investigators of the subject, who ascribes the first sound to the muscular contraction of the ventricles (*bruit musculaire*), and the second to the reaction of the arterial column against the semilunar valves.

All the above hypotheses, when analyzed, are reducible to four elements:

1st. Muscular action. (M. d'Espine, both sounds; Williams, and the Dublin Heart Committee, first sound.)

2d. Friction of the blood against the walls of the containing cavities or vessels, (Pigéaux, Carlisle;) and consequent currents, (Hope.)

3d. Double impulse of the heart against the side of the chest. (Magendie, &c.)

4th. The play of the valves. (Rouanet and Bouillaud, both sounds; Williams, Carlisle, and the Dublin Heart Committee, second sound.)

It is rather by inference than in consequence of any direct assertion on his part, that Laennec has been sometimes classed amongst those who ascribe the sounds in question to the muscular contraction, (*bruit musculaire.*) It was more particularly with a fancied similitude between the *bruit musculaire,* as heard in the voluntary muscles, and the *bruit de soufflet*, or bellows sound, that Laennec appears to have been struck: and, from the fact of his having instituted such a comparison, M. Bouillaud is of opinion that he must have mistaken the sound elicited by the *friction* of the clenched fist applied against the ear (the mode in which he investigated the sound produced by a muscle in action,) from that really resulting from a vibratory motion in the muscular fibres themselves. The distinguished pathologist above named has also, he conceives, fallen into a manifest inconsistency, in at once referring the bellows sound to the muscular action of the ventricles, and at the same time asserting that it is of more frequent occurrence during their diastole, or state of relaxation, than during their systole. In point of fact, it may take place either during the systole or the diastole, or both; but it is a much more frequent accompaniment of the first. M. Bouillaud does not recognize the *bruit musculaire* as a cause either of the natural sounds of the heart or of the bellows sound. He does not deny its existence, but considers it of quite too feeble a character to account in any degree for the cardiac sounds.

To the theories which ascribe the natural sounds of the heart to the impulse of the blood against the walls of its cavities, to friction, to currents, &c., he is equally hostile. That this fluid, in its passage through the several orifices, may produce a slight sound, even in the normal condition, and very marked ones in certain morbid states, he is very far from denying; but he asserts that such are, under all circumstances, very unlike the natural *tic-tac* sound of the heart. If such were really the origin of the normal sounds, they should not altogether disappear, as they are known to do, in certain diseased conditions of the valves, and become entirely supplanted by those new or accidental sounds known under the name of bellows sound, rasp sound, &c. Any sound which may be thus produced in the natural state is, he asserts, entirely eclipsed by the valvular sound afterwards to be enlarged upon.

In refutation of M. Magendie's hypothesis, our author adduces the following experiments, lately made by him. He laid bare the heart of a vigorous cock, and applied alternately the stethoscope and the naked ear to it, both whilst still within the pericardium, and after the removal of that covering; and constantly heard the double sound of the heart quite distinctly, though no contact was permitted between it and the thoracic parietes: by way of precaution, he even raised it on his finger out of the chest. On the interposition of a cloth between the heart and his ear, to protect the latter from the contact of the blood escaping from the wound, it was still audible, though less clearly so. When the stethoscope was employed, the friction of the heart against its end produced a peculiar noise; but this was single, and of a rubbing character, which it was quite impossible to confound with the natural sound of the heart. The same experiment has also been made by Dr. Hope and Dr. Williams, in London, and the committee above alluded to in Dublin, on larger animals, with precisely similar results. By the last-mentioned experimenters it is even stated that the sounds could be heard, though feebly, without bringing the ear into absolute contact with the organ. These facts seem totally incompatible with the theory which ascribes the sounds to external impulse. On cutting the great vessels across, and removing the heart from the chest, the pulsations continued for some instants; but in this, its empty state, M. Bouillaud could hear no sound. Here, however, his observations are at variance with those of the authorities just alluded to. Had his experiment been made on the heart of a larger animal, as an ass or a calf, for example, the organ being removed from the body whilst still in a state of vigorous action, we have no doubt he would have succeeded in hearing at least one of the sounds (viz. the first,) very satisfactorily. Dr. Hope's experiments, which were the first of the kind, were quite unknown to our author at the time of his instituting his own.

Of M. Rouanet's, or the valvular theory, M. Bouillaud is, as already stated, a warm advocate. He does not pretend to have produced absolutely direct proof of the sounds depending on the play of the valves; but having, as he fancies, negatived all the other hypotheses advanced, no other possible explanation than this is, he thinks, left us. Pathology also seems to him to be highly favorable to this view; for it is when the valves are deeply altered in their structure, or in their relation to the orifices, and rendered thus unfit for their office, that the sounds of the heart come to deviate most from their natural condition; and in proof of this he refers triumphantly to the cases throughout his work. The chief cause of the first sound, according to M. Bouillaud, (and the only one according to M. Rouanet,) consists in the sudden elevation and collision of the opposed surfaces of the auriculo-ventricular valves, and especially of those of the left side: in addition to which, he conceives that the rapid throwing down of the sigmoid valves against the arterial walls by the projected column of blood may also assist in its production. If any sound be really produced by the friction of the blood against the orifices, its character is quite lost, as already stated, in the valvular noise.

With regard to the second sound, he coincides with Dr. Carswell, who first suggested the idea, and with M. Rouanet, who subsequently developed it, in believing that it originates in the elevation of the sigmoid valves, which is effected partly by the reaction of the arterial tubes on the column of blood in them, and partly by the suction of the ventricles in their diastole. He is also disposed to ascribe somewhat to the sudden falling back of the auriculo-ventricular valves, (under the influence of the cause just mentioned, as well as in consequence of the rush of blood over them from the auricles.) We confess, however, that, in regard to his explanation of the first sound, we see an insuperable objection in its prolonged and uniform character, which seems quite inexplicable by the rapid and momentary motion of the auriculo-ventricular valves.

M. Bouillaud was not aware, apparently, of the direct experiments performed in the spring of last year, by which Drs. Hope and Williams have endeavoured to decide how far the valvular motions are concerned in the production of the sounds. According to these, it seems that the first sound persists even after the action of the auriculo-ventricular valves has been altogether impeded by thrusting the auricles through the corresponding orifices into the cavities of the ventricles; but that the second sound is put an end to, and succeeded by a hissing noise, on transfixing one or more of the sigmoid valves of the aorta and pulmonary artery with a curved awl or needle, and thus confining them against the walls of the vessel, and preventing their action; a result which has been very recently verified by the repetition of a similar experiment in Dublin. The second sound may likewise be stopped by compressing the aorta and pulmonary artery, and so preventing the falling back of the column of blood against the sigmoid valves; but this experiment is less satisfactory than the preceding, as the pressure requisite generally gives rise to a considerable degree of disturbance in the heart's action. The first sound is found to be loudest over the middle of the ventricles; the second, over the sigmoid valves, and for a few inches upwards. The conclusion at which Dr. Hope arrived from the experiments above alluded to, and which he has published in his recent Appendix, differ very much from those brought forward by him in 1832. His present idea of the first sound is that it is of a compound nature, consisting, "1st, possibly of a degree of valvular sound; 2d, of a loud smart sound, produced by the abstract act of sudden jerking extension of the muscular walls, which, to avoid circumlocution, he calls the *sound of extension*;" "3d, a prolongation, and possibly an augmentation of this sound, by the sonorous vibrations peculiar to muscular fibre, (*bruit musculaire;*)" but he thinks, considering the extraordinary intensity of the sound of the heart during palpitations, that it would do violence to all analogy to suppose it produced solely by the *bruit musculaire.* He seems still, moreover, inclined to attribute to the motions of the blood itself some share in its production. His account of what he calls the sound of extension, which, as we have just seen, he considers to be the chief cause of the first sound, does not appear very precise, or indeed altogether intelligible. With regard to the second sound, also, he has completely renounced his old opinion of its depending on the collision of the blood in the diastole of the ventricles, and adopted that of M. Rouanet, Mr. Carlisle, &c., who ascribe it to the reaction of the blood against the sigmoid valves. Dr. Williams's conclusions, from the very same set of experiments, are, so far as the cause of the first sound is concerned, quite different from those of Dr. Hope: he adheres, in respect to it, to his original opinion, published in 1828, and in the advocacy of which he at first stood alone, namely, that it depends on the *bruit musculaire.* He remarks, in regard to Dr. Hope's objections to this cause, that "it is very possible to imitate the first sound of the heart by suddenly contracting the muscles of the gently closed hand; but it is not to be expected that the sound of muscles *remaining* in a state of tension can give a similar sound. These produce the dull rumbling sound described by Dr. Wollaston, which Dr. Hope seems to have taken as the type of muscular sound. The muscular contraction of the heart is preeminently calculated to produce sound, inasmuch as the motion is strong, abrupt, and simple, and the resistance considerable, and continued as long as the semilunar valves are open and the auricular shut." He shews very satisfactorily that it cannot depend on the action of the auriculo-ventricular valves, (for it continued after they were partially destroyed, or their motions obstructed;) nor yet on the collision of the particles of blood, (for it is heard even after the heart is empty, and, we may add, even after its removal from the body. All Dr. Hope's three causes, he thinks, are included in the simple principle of the sudden tightening of muscular contraction. With regard to the second sound, he was formerly inclined to Dr. Hope's original opinion; but his recent experiments on the subject have induced him to adopt the hypothesis which ascribes it to the sigmoid valves. It is obvious, amidst all this diversity of opinion, that there is still ample room for further investigation of the sounds of the heart; and we observe with pleasure, that Drs. Todd, Williams, and Clendinning have been appointed by the British Association to prosecute the subject; and to the result of their labours, as well as of those of the Edinburgh committee, we look forward with much interest.

M. Bouillaud next proceeds to investigate the alterations in the rhythm of the heart induced by disease, as also in the number and force of its pulsations,—the extent in which they can be felt, together with their morbid or accidental sounds, as well as those occasionally heard in the arteries, and those which accompany pregnancy.

The duration of the systole, says our author, seems often to be prolonged by the difficulty experienced by the blood in escaping through the morbidly altered arterial orifices. Now, this appears to us to be a great difficulty in the way of the exclusive valvular theory adopted by him. The prolongation of the first sound under such circumstances is just what we should expect, if this sound depended on muscular contraction; whilst, on the other hand, we cannot see how the valvular sound could be so drawn out, being in its very nature, we conceive, brief, or almost instantaneous. In some rare cases, he has, in addition to the shock caused by the ventricular systole, felt a second, or even a third impulse, which, as already stated, he ascribes to dilatation of the ventricles; though we apprehend that the phenomenon might more satisfactorily be explained by a repetition of abortive or spasmodic contractions, unaccompanied by arterial pulsations, in consequence of the ventricle being in a nearly empty condition. We have mentioned that he also believes (and the opinion is not peculiar to him,) that the systole of the auricles is capable, in certain morbid states, of causing a notable impulse. Thus, in a woman labouring under an enormous hypertrophy of the heart, with indurations of the mitral valves, there was a very obvious pulsating motion in the left superior mammary region, about an inch below the clavicle; and the finger applied here was thrown up with a well-marked shock, which, as the impulse of the ventricles was felt two inches lower down, could be accounted for by nothing else than the systole of the left auricle, in a state of hypertrophy and dilatation. It alternated with another motion, which seemed coincident with and dependent on the auricular diastole; and this double or undulatory motion of contraction and dilatation, as felt through the emaciated and distended parietes, imitated perfectly that seen in the auricles of the naked heart. Long-continued and violent palpitations, particularly in cases of hypertrophy, tend eventually to produce a very marked prominence in the præcordial region. This, which he has often had occasion to observe, has not previously, as far as he knows, been noticed by any other writer; though, from our knowledge of what occurs in the case of aneurismal tumours, it is what we might *a priori* have expected.

With regard to the vibratory sensations imparted to the hand applied over the cardiac region, (*frémissement cataire* of Laennec,) which was first pointed out by Corvisart as diagnostic of narrowing of the left orifices, a very accurate idea may be obtained by touching a sonorous body in vibration,—the larynx in speaking, or an aneurismal varix. It is singular that Corvisart, who was aware of a similar thrilling sensation imparted to the finger in certain cases of disease, which he erroneously supposed always to consist in contraction of the aortic orifice, should not have been apprized of its still more frequent presence in the larger arteries, in which it sometimes coexists with, and in others is altogether independent of, disease in the heart; and which has since been so well described by Laennec. It exists in nearly all those singular cases where pulsations of the arteries are accompanied by audible sounds, of which that designated by Bouillaud under the strange name of "*bruit, ou ronflement du diable,*" is one of the most remarkable. He believes that both this and the bellows sound (with which it is so closely connected) depend on narrowing of one of the orifices of the heart, and the consequent increase of friction of the current of blood against the edges of such diseased orifices. Laennec, on the contrary, though aware of the frequent coexistence of the *frémissement cataire* with the above lesion, yet seems to have looked upon it as having its immediate source in a spasmodic state, rather than in this peculiar organic change, inasmuch as he had frequently found it of equal intensity in the absence of the latter; and even M. Bouillaud admits that there exist numerous instances of it in which there is no such narrowing of these orifices, and that we are as yet far from having attained to an adequate knowledge of all the possible causes of this phenomenon. Another of these causes consists in the friction of the opposed surfaces of the pericardium, thickened and rendered rough by effused lymph; and here the vibratory thrilling sensation coexists with the *bruit de rape*, or sometimes with that sound compared by Colin to the creaking of new leather. In one instance given in the present work, it was connected with the friction caused by a rough, irregular ossification on the surface of the heart. He suggests the possibility of its occasionally depending also on the reflux of blood into the ventricles or auricles.

As to the *anormal* sounds of the heart, it was to have been expected that Laennec should have fallen into some errors, being in great part ignorant of the true causes of the double sound in the natural state. The passage of the blood through the several orifices of the heart may, as it has already been admitted, occasionally be productive of some slight sound. Now, though this, in the healthy condition, is drowned in the valvular sound, yet, in proportion as the orifices become narrowed and irregular in their shape, and the valves diseased, this frictional sound will become not only altered in character, but so increased in intensity as eventually to mask the normal sound, which has become changed and diminished under the influence of the same causes.

The sounds of the heart vary greatly in intensity in different individuals, being in some instances as feeble and as difficultly heard as in the fœtus at the fifth month; whilst in other cases it has been heard at the distance of two or more feet from the chest. The loudness depends, according to our author, not on the comparative thinness and capacity of the ventricles, as M. Laennec conceived, but on the tenuity of the valves, the energy with which they are thrown into action, and the teneness they are capable of assuming. No doubt the increased thinness of the ventricles, and that of the valves, frequently coexist; as does hypertrophy of the former with thickening of the latter; and hence perhaps the error of Laennec. In the case of hypertrophy, not only is the state of the valves unfavorable to the production of sound, but also the thick mass of muscle in the walls of the heart so affected, is very ill suited for conducting it.

Of the principal morbid varieties in the sounds of the heart, one is that where they assume a hard dry character, as if the valves were formed of parchment; and this generally depends, as dissection proves, on a state of considerable hypertrophy and rigidity of the valves of the left side, and especially of the mitral valve. Whilst those cases where it takes on a hoarse, large, rough character are usually connected with a fungoid and infiltrated condition of the valves, which are then soft and flaccid, instead of being firm and resisting, as in cases of true hypertrophy. When this species degenerates into a bellows murmur, it is from incrustations or vegetations being developed in the valves. The natural valvular sounds, as he calls them, never, according to his observation, disappear entirely in any case where the lesions of the valves are uncomplicated, and have not yet gone to such an extent as to prevent their proper motions. But if there exist at the same time narrowing of an orifice, or roughness and irregularity of the surface of the valves, or if they are no longer capable of fully closing the orifice and preventing the reflux of blood, the natural sound becomes mixed with, and modified by the bellows murmur, the saw or rasp sound, &c.

In addition to the various anormal sounds of the heart hitherto mentioned by authors, M. Bouillaud has noticed a new one, analogous to the *bruit musical* of the arteries described by Laennec; and he compares it to the cooing of the turtle dove, or sometimes to the chirping of small birds, or to the *râle sibilante* of bronchitis. Of this he has as yet met with but two cases, and M. Rouanet with a third: they seemed to be connected with narrowing of the orifices.

The saw sound has in some cases a peculiar hissing character, which may be accurately imitated by a long drawing out of the letter S; whilst in others it has a more thick and rough tone, of which a pretty accurate notion may be imparted to those who have not yet heard it, by pronouncing the letter R with a prolonged burr. All of these sounds, which may be considered as so many modifications of the *bruit de soufflet,* seem to M. Bouillaud to be very commonly connected with narrowing of the orifices of the heart. Laennec, on the contrary, looked upon them as the result, not of organic lesion, but of simple spasm in the heart or arteries.

The effect of narrowing of the passages through which the blood flows, in producing the bellows sound, may, as is well known, be artificially produced in the arteries by making a certain degree of pressure on them with the stethoscope. The friction of the current is thus increased, and this peculiar sound ensues. M. Bouillaud asserts, that, out of upwards perhaps of a hundred cases, where contraction of the orifices with induration of the valves was established by dissection, the bellows sound had been observed during life in all, with a single exception, and that had not been very carefully examined.

M. Piorry's experience is, however, much at variance with this: neither the *bruit de soufflet* nor any of its modifications were present in nineteen twentieths of such cases of this kind as had fallen under his own observation. But here, as in other instances, where negative proof is set in opposition to positive, we feel inclined, *cæteris paribus*, to give most weight to the latter, until additional and more extensive investigations shall have finally settled the point. Even Laennec himself admitted the very frequent coincidence of *bruit de soufflet* with narrowing of the orifices, though he did not consider the former a direct physical consequence of the latter. That it is an absolutely necessary consequence of such a condition of parts, we cannot ourselves admit; as we have reason to think that cases of well-marked contraction, with ossifications, &c., do occasionally present themselves, unaccompanied by any such abnormal sounds. Such occurrences are however, we believe, extremely rare, and form only the exception, and not the rule, as M. Piorry would have them to do. In forming our diagnosis, it should never be forgotten that the peculiar sounds in question may be produced by the refluent as well as by the onward motion of the blood; a circumstance which has lately been enlarged upon at some length by M. Filhos, in France.

Though M. Bouillaud looks upon the narrowing of the orifices with induration of the valves as a very frequent cause of soufflet, he does not by any means maintain that it is the only one, but recognizes several others, amongst which the following are the principal: 1. Polypous concretions formed during life; and such he thinks is probably one of the causes of the bellows sound in acute inflammations of the internal lining membrane of the heart. 2. Smallness of the aortic orifice, even when the valves are perfectly healthy. This condition, whether congenital or acquired, coexists very often with dilatation and hypertrophy of the left ventricle; circumstances which will necessarily add much to the intensity of the sound. 3. Vegetations and calcareous incrustations on the valves, with irregularity of their surface, even when their efficiency has not been altogether destroyed thereby, nor the size of the orifices manifestly affected. The infiltration of the valves from endocarditis he conceives also to be a frequent cause of the sound. 4. Preternatural adhesions of the auriculo-ventricular valves to the adjacent parietes of the heart. 5. Dilatations of one or more of the orifices of the heart, with consequent inefficiency of the viscus. 6. Hypertrophy, with dilatation of the left ventricles, even though unattended by narrowing of the orifices, is occasionally accompanied by the bellows sound; but here it is generally intermittent, and only well marked at such times as the motions of the heart have been unusually accelerated. 7. He has in some very rare instances met with it in the heart of chloretic, nervous, anæmic individuals, and that especially during the presence of palpitations. 8. Great and sudden debility from hemorrhage, and other lowering causes, gives rise to the temporary appearance of this phænomenon in conjunction with an extremely rapid and feeble pulse. Dr. Hope, in experiments performed in conjunction with Dr. M. Hall, succeeded in producing it at pleasure in the lower animals, by repeated abstractions of blood. It is suggested by M. Bouillaud that it may depend on a narrowing of the orifices, which thus endeavour to adapt themselves to the diminished quantity of fluid circulating through them. A spasmodic action in the heart (for that spasm is an ordinary consequence of extreme depletion, in the voluntary muscles at least, is incontestable,) should, we think, also be taken into the account.

All the above cases, according to our author, are reducible to one common principle, viz. increased friction, produced in some of them by the direct, in others by the refluent, current of the blood. If this be correct, it seems to follow that, from *bruit de soufflet* alone, it must be quite impossible to decide in which of the orifices, if any of them, the disease is seated; for, though it be coincident with the ventricular contraction, it may depend either on the rush of blood through a diseased aortic or pulmonary orifice; or on a reflux through the auriculo-ventricular openings, or both; and if, on the other hand, it coexists with the diastole of the ventricle, it may originate either in reflux through the former openings or depend on a morbid alteration of the latter, or on both circumstances together. In fine, *bruit de soufflet*, properly so called, may exist with, or without, organic change in the heart. When it depends on contraction of the orifices, or induration of the valves, the changes of structure are generally rather of a fibro-cartilaginous than of an osseous nature. When the latter species of organization exists, it seems to give rise to those rougher varieties of abnormal sounds known by the name of *bruit de rape*, *bruit de scie*, &c. The sibilant or musical sound M. Bouillaud believes to be always connected with narrowing of the orifices, or a diseased state of the valves, it being merely a modification of the bellows sound in its highest degree of intensity.

Of those cases, which M. Bouillaud was the first to recognize, in which, in place of the double sound of the heart, we have three or even four sounds, he gives a short account of three examples, and alludes to several others. The first was in a woman where there were four successive sounds during each revolution or complete beat of the heart. The first sound was composed of a mixture of the normal first sound with a slight bellows sound; two sounds of a dry hard character (*craquement sec*) followed in rapid succession; and then came the fourth, which was a pure bellows sound. This case was examined not merely by M. Bouillaud, but also by several of the other physicians of La Charité and a number of the pupils, by all of whom the existence of the above phenomenon was confirmed. On dissection, there was discovered very considerable narrowing of the left auriculo-ventricular orifice; a fibro-cartilaginous state of the mitral valve, tendinous thickening of the aortic valves at their adherent edge; and fibro-cartilagious patches, and some adhesions of the pericardium. The second case was that of a young woman labouring under a very acute rheumatic inflammation of the inner lining of the heart, which was followed by all the symptoms of valvular induration and contraction of the left auriculo-ventricular opening. A triple sound was heard in this individual, which he compares to the drums beating the "rappel," or to the noise produced by a hammer let fall on an anvil, and rebounding twice, (tīc...tăc... tăc.) The first of these was accompanied by a slight bellows murmur; the two others followed in rapid succession, and seemed to be but a division of the second sound, as if the ventricle had not been able to fill itself completely on the first effort at dilatation. The same case, a few days after, presented a fourth sound in the form of a terminal soufflet succeeded by a short silence, and then a repetition of the whole. The third case given was that of a young man where the triple sound was heard: the pulse was dicrotous, as if the ventricle was unable to empty itself at a single contraction. The second arterial wave seemed to be extremely small. He believes that, in all such cases as those just detailed, there exists a narrowing of some one of the orifices of the heart and induration of the valves. There is an opposite class of cases, in which the natural double sound of the heart is as it were absorbed by a single but very loud bellows sound; and here the second sound seems, as it were, absent, the two bellows sounds being run into one. This seems to be owing in part to the rapidity of the pulse usually observed in such cases; and he mentions an example where the two sounds, so confounded, became separate on the pulse being reduced by the action of digitalis. Sometimes, by merely removing the stethoscope to a point at some distance from that where this *bruit de soufflet* is at its maximum of intensity, the distinction into two sounds becomes sufficiently evident. He believes, however, that the second sound may not only cease to be distinguishable, but be really wanting, namely, in cases of extreme debility.

Though he disbelieves in the production of any sound by the heart's impulse in the natural state, yet it seems to him not only possible but certain that, when the heart's action becomes very violent, the case is otherwise; the shock against the side of the thorax being then productive of a kind of clear metallic ringing sound, as already observed by Laennec; possibly also in cases of ossification of the heart or pericardium, the same phenomenon may occur; though he admits that he is not as yet in possession of any facts illustrative of this latter cause. This metallic sound may be imitated very exactly by applying one hand over the ear, and tapping on the back of it with a finger of the other. It is a sound which in no wise interferes with, and is incapable of being mistaken for, the double sound of the heart, and is heard only during the systole.

The abnormal sounds occasionally produced by the friction of the opposed surfaces of the pericardium, when in a diseased state, seem to have escaped the observation of Laennec. They are divided by M. Bouillaud into three species: 1. The rubbing sound, ("*bruit de frottement*,") which very closely resembles that heard in certain cases of emphysema of the lung, and may be pretty closely imitated by rubbing together two pieces of silk, bits of parchment, or bank-note paper. It may be distinguished from a similar sound taking place on the surface of the lungs, by its being double, but synchronous with the heart's motion. It is most obvious in the systole, and is diffused over a considerable surface; a circumstance which may aid us in discriminating it from the morbid frictional sounds accompanying certain lesions of the valvular orifices above alluded to. 2. The creaking sound, or that which by M. Colin, who first observed it, was compared to the sound of new leather, as heard in the creaking of the sole of the shoe in walking, is of infinitely rarer occurrence than the preceding, having been met with but once by our author in a state of purity, and by Andral likewise but once. 3. A scraping sound, ("*bruit de râdement*,") such as might *à priori* be expected to be produced by the rubbing a hard and rough cartilaginous or osseous body against the pericardium; a very remarkable instance of which is recorded in the work before us: the ossific deposit having commenced in the mitral valve, extended through the whole thickness of the left ventricle, raised the external membrane of the heart, and projected into the cavity of the pericardium precisely opposite to the point where the scraping sound had been heard during life. Its synchronism with the motions of the heart will enable us to distinguish it from somewhat similar morbid sounds which have their origin in the cavity of the pleura or in the bronchi.

The first two of the sounds above mentioned have hitherto been only met with in acute pericarditis. The faintest kind of frictional sound he believes to take place only in the incipient stage of this disease, while the membrane is preternaturally dry, and before effusion of any kind has commenced. The diffused rasp sound and saw sound he believes to indicate the formation of these thick, rough, areolated false membranes, found in the more advanced stages of the same disease; and the creaking, leathery sound he thinks takes place when the false membranes are peculiarly dense, firm, and elastic, and have perhaps already given rise to adhesions which are subjected to incessant dragging in the motions of the organ: such at least was the state of things in the single case alluded to above.

As to the bellows sound which so frequently accompanies pericarditis, he believes that it depends on the coexistence of an endocarditis, or inflammation of the internal membrane of the heart, and the consequent affection of the valves, the production of polypus concretions, false membranes, &c. within the heart, and not on the mere increase of action in the ventricles, as some writers suppose. Dr. Latham, who first observed the coexistence of *bruit de soufflet* with pericarditis, erroneously conceived that it was peculiar to the rheumatic variety. Dr. Hope corrected this too narrow view of it, and has, along with Dr. Stokes and others, recorded additional examples of its existence; but the first two abnormal sounds alluded to above, though much more characteristic of this disease than the bellows murmur, seem to him to have been very generally overlooked: not, however, by Dr. Stokes, (though our author has neglected to except him,) by whom a very valuable paper on pericarditis was published in the autumn of 1833, in which both the sound of "*frottement*," and that compared to the creaking of new leather, are particularly insisted on; and Mr. Mayne, still more recently, has added a new value to these signs by stating more precisely than had hitherto been done, the period of the disease at which they are ordinarily to be found.

M. Bouillaud does not think it has ever yet been demonstrated that a simple pericarditis can give rise to *bruit de soufflet*, whilst on the other hand he is certain that an insulated endocarditis can cause it, and that too in a very violent degree.

As to the sounds, normal and abnormal, audible in the arteries, considerable additions to our knowledge have been made since the appearance of Laennec's work. Of the two, it was only those of the abnormal kind which were noticed by this great observer. M. Bouillaud has turned his attention to those existing in the natural state, and has observed that, in all the great arteries of the trunk, neck, and limbs, a kind of low murmur accompanies each wave of the pulse, varying in character according to the size of the artery, the rapidity of the contractions of the heart, the age of the subject, &c. This sound he compares to that produced by the friction of the points of the fingers against each other in the action of giving a fillip. If the stethoscope be made to press somewhat more firmly on the artery, this becomes immediately converted into a bellows sound like that heard in narrowing of the orifices of the heart, or the "*bruit placentaire*," audible in the abdomen in pregnancy. M. Laennec has strongly asserted that such sounds are peculiar to the arteries of hypochondriacal patients. M. Bouillaud fancies that, in proportion as the vessels are soft and relaxed, and contain less than their due quantity of blood, or if the fluid is thin and watery, the rushing sound becomes less obscure, and approximates more to the bellows sound. The arterial sound is single, instead of being double, like that of the heart, and is synchronous near this organ with the first of the two cardiac sounds; whilst, in the more distant arteries, it is, as we have seen with regard to the arterial impulse, slightly posterior to it, as becomes quite evident in cases where the pulse is very slow, below fifty, for example. That the arterial sound depends on the friction of the column of blood is obvious, as it can easily be imitated by injecting a fluid into the arteries of the dead subject, or through any elastic tubes. M. Piorry's experiments on this point in the "Archives Générales" have thrown some light on the subject . The bellows sound, according to him, may exist without any narrowing of the arterial tube, though the existence of this will certainly much increase its intensity. The passage of the blood through an aneurismal tumour presents this phenomenon in a very marked degree. M. Pelletan is in opposition with M. Piorry in relation to the cause of this sound; for he conceives that some degree either of roughness or of narrowing, or some other obstacle in the tube, is essentially necessary to the production of such sounds; but our author is far from coinciding with him in these opinions. Dr. Corrigan, in his paper on what he supposes to be a newly discovered disease of the heart (permanent patency of the aortic valves,) has observed that, if a slight pressure be made on a flexible tube, a "*bruit de soufflet*" and "*frémissement*" exist to a certain distance beyond such pressure, that is, in that portion, which, from the limited quantity of fluid admitted, is no longer tense; and the intensity of these phænomena varies with the rapidity of the current.

According to M. Bouillaud, the abnormal sounds of the arteries are divisible into four species: viz. the ordinary intermittent bellows sound; the continuous bellows sound, (*bruit de soufflet à double courant*); the "*bruit ou ronflement du diable;* and, finally, the "*bruit musical,*" or modulated variety, resembling the simplest form of a musical air. The first, or ordinary kind, is synchronous with the arterial diastole, and occasionally accompanied by *frémissement cataire:* and, as already mentioned, is producible by pressure, from whatever cause. Hence the development of a tumour in the neighbourhood of a large artery is often sufficient to give rise to it. From this source he has met with it in the iliac artery of a female, and to such a degree as accurately to imitate the placentary murmur of pregnancy; and even the latter phenomenon he attributes to a similar cause. Of the continuous bellows sound, including the "*bruit ou ronflement du diable,*" which is the most curious variety of it, he has met within the last three years, or since his attention became directed to the subject, a great number of instances. He has been induced to give this strange name to the variety of it just mentioned, from its close resemblance to the sound produced by the toy called the devil on two sticks, which was in fashion a few years since, both in France and this country, consisting of a couple of small humming tops placed end to end, and which on a rotatory movement being given it, in tossing it up into the air, produces a whizzing or booming sound. This species of soufflet is, in short, the bellows sound in its highest degree of intensity, and is sometimes compared by our author to that produced by the great bellows of a forge. The arterial sound sometimes imitates the cooing of a wood pigeon; at others the whistling of the wind through a keyhole or other small cleft. The arteries in which the "*bruit du diable*" are most frequently met with are the carotid and subclavian. Although continuous and uniform in appearance, yet, with a little attention, we can easily satisfy ourselves that it runs up through a kind of scale, the lowest sounds of which may be compared to the bellows of a smith's forge, and the highest and most acute to the instrument above alluded to. It may be considerably modified by making pretty firm pressure with the stethoscope on the artery, being thus in some cases much weakened, and in others converted into a low grumbling character, or into a murmuring sound like that heard on applying a large shell to the ear, or like the confused hum of a crowd. Even a slight change of position in the patient's head will occasionally greatly alter its intensity. Thus, in general, it increases in strength when the hand is carried to the opposite side from that of the artery under examination, and the chin is a little raised; and, what is very singular, if we push the larynx away from the sonorous artery, the sound immediately diminishes, or even ceases altogether; and also, as M. Donné has observed, if the patient makes any prolonged muscular effort, it is likewise at an end. The musical variety has been already well described by Laennec, and even expressed by him in musical notation. It occasionally resembles the humming of winged insects or the sound of the jews' harp. It occurs most frequently in chlorotic cases; such as, from the existence of palpitations and oppression on the slightest exercise, &c. are often mistaken for organic disease of the heart. In fact, M. Bouillaud looks upon these sounds as an invariable accompaniment of this morbid state of the constitution. The patients who are the subjects of it are remarkably pale and delicate in appearance, and of a very nervous habit; and he seems to think it may here have some connexion with the unnatural predominance of the serum in the blood in such individuals, and the consequently thin and watery condition of this fluid. This, however, appears to us far from certain.

The causes of all these varieties of arterial sounds are reducible to the following heads: 1st, Compression, as by a tumour, the stethoscope, &c. 2d, Contraction of the caliber of the artery, whether by organic lesion or any other cause. 3d, Roughness of the lining membrane, from osseous degeneration, &c. 4th, Violent action of the left ventricle of the heart. 5th, The passage of the blood through an accidental opening in an artery, and its mixture with the blood in the vein, (aneurismal varix.) According to Dr. Corrigan, to these should be added flaccidity of the arterial walls; but this cause is rejected by our author, who at the same time takes occasion to question the novelty of the disease described by the writer just named, under the title of permanent patency of the mouth of the aorta, or the inefficiency of the aortic valves; one of the most conspicuous symptoms of which is stated to be a *bruit de soufflet*, in the ascending aorta, the carotids, and subclavians; a phenomenon which is ascribed to the reflux of the blood into the ventricles after each systole, causing flaccidity of the aorta and great branches arising from it, so that the next wave of blood, by its motion under these circumstances, gives rise to a vibration in the walls of the arteries, and to a consequent bellows sound, synchronous with their diastole. M. Bouillaud attempts to throw discredit, though we think very unreasonably, on the reality of the experiments adduced to prove directly that this sound depends on flaccidity of the arteries; and asserts that it is in contradiction with all others on the same subject, and especially with that where the pressure of the stethoscope gives rise to this phenomenon. We do not, however, we confess, see the apposition between the two facts; for pressure on any point of a flexible tube filled with a fluid tends necessarily, by suffering a smaller quantity of the contained fluid to pass than what is requisite to distend it, to produce a state of relative relaxation in the portions immediately beyond that where such pressure is applied; and that this want of tension in the arteries may be productive of a sound like that in question, appears to receive support from the following passage in the work of M. Bouillaud before us, when speaking of a case in which the "*bruit du diable*" and "*frémissement cataire*" were very evident in the right carotid and subclavian: he says, it seemed as if these arteries were not sufficiently full, and as if the molecules of the blood, in consequence of this, came into collision with each other. M. Guyot, though he considers himself a partisan of Dr. Corrigan's opinion, has rather thrown a difficulty in the way of its adoption, by asserting that the soufflet in question is synchronous, not with the diastole of the arteries, but with that of the ventricles, and consequently with the arterial systole; and he ascribes it to the friction of the blood, in its retrograde course, against the edges of the diseased sigmoid valves, as well as against the sides of the artery. In regard to this, however, M. Bouillaud asserts that it is not merely during the arterial systole that the soufflet is heard in such cases, but also, and principally, during the arterial diastole; that is, in the instant of the ventricular contraction. The possibility of this double soufflet existing in such cases was known also to Dr. Corrigan, as he states expressly that, when the deficiency of the valves is considerable, allowing the blood to rush back in a full stream into the ventricle, two such sounds exist, the first corresponding with the diastole of the artery, and resembling a rushing of blood into the aorta; the second, which immediately succeeds, seeming to the ear like a rushing back of the blood into the ventricle. The primary element in the production of these sounds M. Bouillaud conceives to be friction against the inner surface of the arteries, which are often also remarkably modified as to their vibratory power by variations in their tension and volume, and in the thickness of their walls, and also by changes in the quality of the blood circulating through them. With regard to the infinitely greater frequency of the "*bruit du diable*" in the carotids and subclavians, he discusses the point as to whether it may not depend on their proximity to the heart, and the greater impulse of the blood to which they are consequently exposed; and also suggests the possibility of its greater intensity here being connected with the neighbourhood of the larynx and trachea, which he conceives may, like the sounding board of a musical instrument, tend to multiply the tone. Any sudden effort, accompanied by closure of the larynx, and consequent cessation of the vibration of the enclosed air, certainly interrupts it; but whether this may not have some connexion with the pressure made on the arteries by the action of the adjacent muscles is dubious.

As the nature, causes, and practical value of the sounds produced near the impregnated uterus, and by the motion of the fœtal heart, have been fully discussed in other articles, we shall pass over entirely M. Bouillaud's valuable chapter on this subject; observing merely, that our author is the great advocate of the doctrine which refers the sound termed *placental* to the compression of the hypogastric arteries by the gravid uterus.

The next portion of the work consists of some general considerations of the diseases of the heart, and is followed by a very detailed account of the particular affections to which it is liable, illustrated by numerous cases, many of which are of great interest. Of these it is our intention to present our readers with a pretty full analysis; but the length to which the present article has run obliges us to defer the fulfilment of our design to the next Number.

Art. V.

Practical Observations on Diseases of the Heart, Lungs, Stomach, Liver, &c., occasioned by Spinal Irritation; and on the Nervous System in general as a Source of Organic Disease. By John Marshall, m.d.—8vo. pp. 172. *London*, 1835.

The subject discussed in this work has often been brought before the public, but without attracting a large or permanent share of its attention. Very many years ago, Dr. Sanders, of Edinburgh, taught his pupils (and perhaps still continues to teach them,) to seek the sources of diseases at the origin of the spinal nerves, and, if we understood right, applied this doctrine in practice; but, so far as we know, never presented it to the world in a formal treatise. Since the commencement, at least, of Dr. Sanders' labours, the Messrs. Griffin, of Limerick, Mr. Tate, Mr. Teale, and others, have written works on affections of the sensitive and motive systems, in which a similar doctrine is advocated, if not with demonstrative proof, certainly with great plausibility; whilst various writers in periodical journals have followed on the same side: among these, Dr. Brown, of Glasgow, published some very valuable observations in the Glasgow Journal; and Mr. Torbet, of Paisley, still more recently, has given some elaborate cases in evidence of the same principle, in the Edinburgh Medical and Surgical Journal for October of last year.

That a doctrine so numerously and ably advocated should have exerted but little influence over the opinions and practice of the medical public, may excite surprise; but a little reflection on the nature of the theory, and the evidence on which it reposes, will, we think, shew why it has failed to impress a very thinking and practical body of men with a conviction of its truth.

In the first place, not only is the nature of what is thought to be the primary pathological condition—the affection designated by the term Spinal Irritation—shadowy and indistinct, but the texture, or part in which it resides, is unknown. Pain is felt in the neighbourhood of the vertebral column. Whence arises this pain? Is it from neuralgia, congestion, inflammation, or something different from all? These questions are unanswered. When we examine its seat, we find it vehemently excited by the slightest touch. This leads inevitably to the conclusion that the situation of the pain thus excited (the spinal marrow may or may not be consentaneously affected,) is external to the vertebral canal: it may be in the ligamentous structure; in the nerves after their exit from the osseous cylinder; or even in the common integument. In a case of the kind we heard of, on undoubted authority, the act of passing the fingers lightly over the fine hairs covering the nape of the neck threw the patient (a lady) into an agony. Here the pain must have been in the skin or the subcutaneous cellular substance.

When we pass to other sources of evidence, we find room for doubt. We admit that the phænomena of the affections ascribed to this irritation are *frequently* of the kind which physiological reasoning would lead us to suppose disease seated at the origin of the spinal nerves calculated to produce. This, however, is not sufficient: we expect some evidence besides those supposed secondary phænomena, of the actual existence of such disease; but this, in most of the cases reported, has been sought in the statements of patients, generally females, labouring under that mixed affection called nervous. In this very sensitive state of the system, we ought certainly to be cautious in drawing inferences regarding pain from the statements of patients, especially if our questions have been put in a leading form. Frequently in such affections, on pressing the spine, the patient will shrink, or even shriek; but when the hand is transferred to another and remote part of the surface, the same indications of uneasiness or suffering will be repeated. No conclusion should be formed as to the existence of spinal irritation, without examining the degree of sensibility in various parts, and comparing it with that over the vertebral column.

Evidence from morbid anatomy, to confirm or refute that deduced from symptoms, is but rarely obtained; cases of this sort being very seldom fatal: but, when death occurs, the author immediately before us declares that no structural change is discernible in the part supposed to be the seat of disease. We admit that symptoms, if clear and unequivocal, are sufficient to establish the existence of a disease; and that, if thus established, it could not be disproved by the absence of perceptible structural change after death; remarking (merely to avoid misconception,) that to suppose a disease, the very essence of which is manifest structural change, —such as phthisis pulmonalis,—to be proved by symptoms to exist, and after death that no such change should be discerned, is to suppose an impossibility. We cannot, however, discover that the evidence, from symptoms, of affection of the spinal marrow, or of the nerves at their origin, is, in the generality of cases, of that conclusive nature to dispense with extrinsic confirmation.

This confirmation has been sought in the result of the treatment adopted: local bleeding, counter-irritation, or both conjointly, directed to the vicinity of the spine. But, in the nervous class (by far the most common) of these affections, it is often so difficult to distinguish between physical amelioration and mental impression, that evidence in favour of the doctrine from this source is, to say the least, of very doubtful validity. Dr. Marshall, who advocates his theory so warmly that, if we understand him right, he would make it almost universally applicable, says, in reference to such measures employed in hysteria, "I have always found it a great matter in such cases to give the patient something to *think about*." Now, it is precisely this "something to think about" which throws such obscurity over our reasonings from the therapeutic measures adopted. When we reflect, moreover, that other remedies, and those such as have been deemed most efficacious in these cases from the days of Sydenham to the present time,—chalybeates and other tonics, for example,—and, above all, change of air and scene, are associated with the local measures, the darkness becomes impenetrable, or the little light perceived shines on the side of the question most remote from the doctrine we are considering. Besides that innumerable cases referred to this class recover without any remedies directed to the supposed seat of the primary affection, the local means, even on the shewing of the warmest advocates of spinal irritation, absolutely require such auxiliaries as change of air and scene for the accomplishment of their object. In one of the cases so instructively reported in the Edinburgh Medical and Surgical Journal, by Mr. Torbet, leeches, blisters, and issues were employed, as some readers will think profusely; but no material improvement took place till the patient was conveyed into Renfrewshire. In another case it is explicitly stated that the complaint was aggravated by an issue in the back; and recovery took place on its healing, the patient being then *in the country*.

It is but justice to the author before us to state, that he does not ask us to accompany him on a voyage solely to this land of shadows: he deals rather in the palpable and distinct: indeed, many of his cases would find a more suitable place in "a Treatise on the Influence of Spinal Distortion on certain Functions of Animal and Organic Life."

The cases, which constitute the great bulk of the volume, are such as the author thinks calculated to illustrate his opinion that various diseases are frequently not idiopathic, but consequent on spinal or ganglionic irritation, or indeed purely indicative of one or the other of these indications. This distinction, however, between disease of an organ caused by spinal irritation, and the mere appearance of such disease indicating irritation of the nervous centre, does not seem to be always kept in view, and the want of its observance is productive of some confusion. The diseases, apparent or real, supposed to be thus induced are, disease of the heart, phthisis, asthma, diseased liver, dyspepsia, cramp in the stomach, diabetes, tabes mesenterica, chorea, and certain non-classified cases.

The very first case does not fall under any of these heads, but, as it shews strongly that, however implicitly we may adopt the facts of an author prepossessed by a theory, the reasoning from them should be our own, we shall give an abstract of it.

"A gentleman, while skating, fell upon the ice, and received a contusion in the lumbar region, from which he did not at first perceive any great inconvenience. He shortly afterwards, however, began to find himself affected with alarming weakness of the lower extremities, and with retention of urine. The weakness rapidly increasing almost to paralysis, the back was examined, and tenderness to touch being found present, the case was treated as a spinal one." (P. 11.) The remedial treatment is not *condescended upon*, (*sic* in Marshall,) but it is said that considerable amendment in the weakness of the lower extremities took place, but not in the functions of the bladder. In six weeks after the patient came under medical treatment he expired. On examination after death, all the viscera were found healthy, except the kidneys, which were gorged with very dark blood, and contained several small abscesses. No morbid appearance could be detected in the spinal column.

The author's comment on this case is as follows:

> "I conceive the *ratio symptomatum* in this case to be, that, at the period the patient fell upon the ice, the renal nerves received an injury or concussion so severe as shortly afterwards to produce paralysis of them. The blood-vessels of the kidneys, and those organs themselves, being thus deprived of nervous energy, became incapable of duly per-

forming their functions. Hence the engorgement of dark blood and breach of structure found after death." (P. 12.)

A more reasonable view of the case would seem to be, that the fall, which produced the injury of the spine, or nerves, indicated by the paralysis, likewise injured the kidneys. The assumption that the change discovered in the latter organs was merely an effect of the lesion of the renal nerves, is purely gratuitous.

The cases of pseudo-disease of the heart are of a miscellaneous character, consisting of affections of various kinds, with only *this* in common, that the medical attendants who preceded Dr. M. had fallen into error in ascribing the symptoms to a disease of the organ itself; whilst, on the other hand, Dr. Marshall has failed, in many of the cases, to adduce adequate proof that the disturbance of the heart's action arose from spinal irritation. Some of the cases, however, in this section shew us the kind and degree of such disturbance, and the disorder in various functions connected with the spinal irritation arising from *deformity*. We select, very much abridged, a few of the cases, both of those which present the strongest evidence of overstrained theory, and those which teach the more valuable lesson, that of endeavouring to discriminate correctly between primary and sympathetic disorder.

"W. E., æt. 12. This case had been pronounced one of disease of the heart, by the ordinary medical attendant and two physicians. His original complaints were weakness, palpitation of the heart, and loss of appetite. He had been for two summers carried to the sea-side, where he uniformly recovered flesh and vigour; but immediately on his return fell off, and experienced a recurrence of all the painful symptoms. Mrs. E. added that he was now worse than he had ever been, and was in fact in so alarming a state as to cause the greatest apprehension of immediate danger. On enquiring what mode of treatment had been pursued, I found that the medical gentleman had most rigidly pursued the starving system of Valsalva for the cure of aneurism; but, instead of Valsalva's bleedings, the boy's bowels had been kept in a constant state of purgation with calomel, jalap, and castor-oil, daily repeated. I could scarcely have believed that the spectre before me was the once blooming, vigorous boy I recollected. He lay in bed emaciated in the extreme, his eyes glistening and restless, moving constantly, with an uneasy rapidity, as if he was unable to fix them for any length of time on the same object. The pulse was sharp, and remarkably quick, 140; the tongue moist, apex florid, but yellow towards the root. The respiration was hurried. The heat of skin rather more than natural. The voice strikingly weak. The expression of the countenance most deplorably anxious. On raising him upon his breech in bed, with a view to examine the chest and spine, I found that the slightest motion increased the rapidity of action of the heart to a most extraordinary degree; and it seemed to beat in every part of the thorax at the same moment. On turning to the spine, *I was disappointed* to find much less irritation or tenderness to the touch than I had anticipated. Drawing the hand down the column gave little or no pain, but caused a thrilling sensation to pass through and over the thorax;

this particularly occurred when the hand was passed rapidly down the cervical and dorsal portion of the spine; and at the same time the velocity of the heart's motion was increased far beyond counting; and the patient panted like one who has *ran* (*sic* in original) beyond his strength.

"I used the liberty of altering the treatment completely. I ordered a light, but nutritious diet, to be cautiously substituted for the starving system. The daily purgation to be given up; the bowels to be regulated by a compound rhubarb pill, given at bed-time, *only when required.* The gastric irritation, from which he had suffered so severely, to be treated by the use of bitters and alkalies. Friction along the whole course of the spine and over the thorax with a strong stimulating liniment. In the course of a very few days I had the satisfaction to see a marked improvement arise from this mode of treatment. The friction very soon produced inflammation on the surface; which was quickly followed by a copious eruption; but exactly in proportion as the external irritation along the spine and intercostal nerves increased, the morbid action of the heart and arteries subsided; and the restlessness of the eye, and anxious expression of the countenance, disappeared. By a well-regulated diet, and by the use of the sulphate of iron and quinine, "the bare bones" became quickly covered with a moist comfortable quantity of flesh, his strength and spirits returned, and every symptom of enlarged heart completely vanished." (P. 40.)

The majority of readers will, we think, be disposed to attribute the improvement in this case to the judicious internal remedial and dietetic measures adopted, rather than to the outward application. Simultaneously with this application, it will be observed, improved diet and tonic medicines were in operation, matters of the greatest moment under the deplorable circumstances to which mismanagement had reduced the patient. Disorder of the heart's action arises from sympathy with various parts of the system; but more frequently with the digestive canal than any other. The author acknowledges that, in the present instance, what he calls gastric irritation existed, and disorder of the first passages furnishes a sufficient explanation of all that occurred: the amelioration at the sea-side; the recurrence of distress on quitting it; the pernicious effect of starving and a course of drastic purgatives; and the benefit derived from tonics, a properly regulated diet, and reasonable attention to the bowels, without any reference to the spinal thrill and the spinal friction. So far as the recovery of the patient was concerned, Dr. M. acted the part of a judicious physician, but his doctrine can derive no support from a complication of measures, intended, one would suppose, to bewilder the student, as to what was the essential, what the merely accidental part of the treatment.

The fifth case, one of lateral curvature of the spine, judiciously and successfully treated, is placed among the cases of simulated disease of the heart, for no reason that we can discover, but because palpitation of the organ took place on exertion, an ordinary occurrence in all diseases of debility. With equal propriety it might have been styled simulated dyspepsia or chlorosis, and with much greater, curvature of the spine. Indeed we are much struck by the extreme slightness of the connexion between the symptoms of his simulated diseases and their designation and position in his book. The sixth case we transcribe, not because we think it rare, but as furnishing a good example of the disturbance of various organs connected with spinal deformity.

"James Baillie, aged fourteen. Is reported to have been a very stout child till his fifth year, when he had hooping-cough. From this period he never recovered his health or strength. Was afflicted with breathlessness, palpitation of the heart, and general debility, particularly in the lower extremities; is very small of his age, and has a vacant expression of countenance.

"I found the chest gibbous and ill-developed, the spine forming a posterior curve from the cervical to the bottom of the dorsal vertebræ; the whole length of the column slightly painful to touch. The poor boy is extremely asthmatic, and the palpitation of the heart on taking exercise becomes so violent as to make the head vibrate in unison with its throbbing: bowels torpid; appetite poor; is neither emaciated nor sallow. I suggested that a blister should be put upon the back, and kept open as an issue for a length of time. This was done, and the issue continued for five months: it was then healed, and again in two months was renewed, as his general health seemed to have derived some slight advantage from the former one, and he had grown considerably in the interval. It was kept open for four or five months, but no attention was paid to the other and more important part of the treatment, that of keeping the patient in a recumbent attitude, and preventing any undue exertion. At the end of a year I could not observe any change *to the better upon him* (sic), except that he walked with less difficulty. The irritability of the heart was in no way abated, neither was the asthma. His death was sudden, and appeared to have taken place in a convulsion." (P. 49.)

Dr. Marshall introduces his cases of supposed phthisis by some prefatory remarks, illustrative of his views regarding the pathology of the disease, the original seat of which, he says, is in the nervous system; and certainly, if we admit his reasoning in all its parts, not only is this true of consumption, but of every other disease. He assumes as an undeniable fact, "that it is from the nervous system alone the vascular derives the vital energy by which it performs its functions; and that hence debility or irritation at the root, or in the course of a nerve or set of nerves, must inevitably produce morbid action in the tissues on which they are ramified; whether that be the heart and blood-vessels, the lymphatics, absorbents, or any of the viscera, the effect will be the same, though the particular character of the disease developed will depend upon the seat of it, as well as upon many collateral circumstances." (P. 55.)

Assertions of this kind, which, aiming to illuminate too much, throw a useful light on nothing, are but little to the taste of the present day, essentially utilitarian in character, disposed in some cases to dive deep into science, but according to a precise method and for a practical purpose. The slight and overstrained evidence by which the author attempts to support this theory as applied to phthisis is not more calculated, than its own inherent usefulness, to win for it any share of public approbation. "Neglected catarrh," he says, "usually denominated 'a slight cold,' sudden alternations of temperature; grief, disappointment, and anxiety of mind, especially when preying on it in secret, imprudent over exertion of either the bodily or mental powers, are among the principal causes to which we generally hear consumptive patients or their friends ascribe the commencement of their complaints. I do not at this moment recollect a single instance in which the patient did not mention or readily admit that, among the first unpleasant sensations he could recollect, was that of coldness over the whole body, but *more particularly down the back.*" (P. 56.) The italics are the author's own; and the application he intends to be made of the passage thus distinguished is too obvious to require to be indicated.

On examining the cases reported, we find that, by treatment directed to the spine, change of air, &c. five recovered, which were designated phthisis, because cough was associated with vertebral affection; but that the only two really meriting the name were fatal.

In the only case of asthma successfully treated, the evidence of spinal affection is slight, consisting, on the application of the hand to the dorsal vertebræ, in a gasp, like that caused by a sudden plunge into cold water, the whole column being apparently healthy, and the same pressure that caused the gasping causing no pain; whilst little or no confirmation is derived, as it appears to us, from the remedial measures adopted. These consisted in the application of two dozen leeches to the second, third, and fourth dorsal vertebræ, to be repeated every few days, and subsequently blisters in the same situation to be kept open as an issue. Those who are aware how generally asthma has its source in bronchial inflammation, and reflect that these powerful antiphlogistic and derivative remedies were directed to the vicinity of the root of the lungs, will have little difficulty in perceiving how feebly the therapeutic measures tend to supply the defective evidence from other sources. The other case is more important, there being actual distortion, and, moreover, the paroxysms occurring generally when the patient "was pulling on his coat in the morning." This latter circumstance is, however, explicable on another principle than that of the exertion described increasing the spinal irritation. The case was fatal "by the bursting of a blood-vessel in the lungs, causing instant suffocation;" a circumstance which certainly tends to show that there was either disease of the heart, or some hyperemia or other morbid condition of the respiratory organs themselves, and to render in no small degree equivocal the spinal origin of the asthmatic attacks.

Passing over the chapters on dyspepsia and liver disease, but referring our readers to them for cases not always conclusive with regard to the purpose for which they are quoted, yet valuable on account of the general therapeutic treatment with which the more favoured measures are associated, and which in Dr. M.'s hands is always very judicious, we pause upon a solitary case of diabetes.

The circumstances of the case, when first brought under treatment are thus detailed by the author.

> "He was brought from his own house to mine, a distance of about seven miles, seated on horseback, where he was held by one of his brothers, his debility being so great as to disable him from otherwise retaining his seat. His appearance truly deplorable; the athletic form wasted to a skeleton; the skin dry and harshy, sallow, almost approaching to a brownish hue. The voice feeble, the respiration hurried; the pulse quick and thready; tongue foul and slimy. Bowels torpid; the eyes sunk in their sockets; the appetite voracious; thirst urgent. Generally voids from four to five gallons of urine during twelve hours, at least during the night; has never exactly ascertained the quantity during the day; but thinks it less than at night. The urine limpid and sweetish-tasted. Thinks himself a dying man." (P. 91.)

After trying, to no beneficial purpose, the tincture of muriate of iron, our author, impressed with the idea "that diabetes originated in irritation or debility of the nerves supplying the stomach and renal apparatus," resorted to frictions of the spine with ointment of emetic tartar. The effect is thus described.

> "A copious crop of pustules was produced along the whole length of the back, from the cervix to the sacrum, and shortly after their appearance the symptoms began to subside. The quantity of urine gradually diminished, and became saltish instead of sweet; the appetite became natural in the same proportion; the thirst abated, and the flesh and strength augmented so rapidly, that in a few weeks he walked from his own house a distance of seven miles to visit me, and returned the same day with little fatigue. By the middle of May he was completely out of my hands, and had returned to his ordinary avocations as a farmer." (P. 92.)

This is a result infinitely more favorable than we should have expected from this, or any plan of treatment, unassociated with those dietetic arrangements which are notoriously so important in diabetes. Regarding the adoption or neglect of such arrangements, Dr. M. is totally silent. It is but a solitary case, and the only reasonable inference from it is, that the practice is entitled to a further trial. It may be said, that the ointment acted by establishing a counter-irritation in the vicinity of the kidneys; but our experience of the unsatisfactory result of such derivation in the disease in question forbids our acquiescing in the explanation.

Did our limits permit, it would be easy to show that our author applies his very partial pathology to various diseases, which we have not named, on very slight grounds, and to phlegmasia dolens, which "he is decidedly convinced is of purely nervous origin," for no reason that we can discover. But it is an ungracious task to point out the errors into which an all-engrossing theory has led a man of information and talent. We think it quite supposable that a very refined analysis might discover, at the commencement of almost all diseases, an impression on the sentient part of the frame; but as the majority of the phænomena with which we are practically conversant spring from either a simultaneous or secondary affection of other systems, especially the vascular and secernent, we cannot help regarding an exclusively nervous pathology as of very trifling value. We should indeed regard it as a great misfortune to be obliged in the treatment of disease to direct our attention exclusively to a system with the morbid conditions of which we are so imperfectly acquainted, and over which we have so little control.

Dr. Marshall confidently anticipates "that the time is at hand, when all the rubbish of "anomalous cases," and "intractable and *mysterious* diseases," will be swept from our periodical literature; and when "systems of nosology" only calculated to obscure the subject they pretend to illustrate, will be left to rot unnoticed and undisturbed on the most inaccessible shelves of our libraries." We cannot refrain from the suggestion that it might hasten the advent of this *millennium*, if Dr. Marshall would endeavour to give a more logical form to his own investigations. In the best part of his work, that in which he relates the effects of visible deformity on various functions, we are often left in the dark as to the share which the dislocation of organs or the pressure upon them has in producing the symptoms; and what should be ascribed to the influence of the osseous deformity on the spinal marrow or the nerves as they issue from it. In the other branch of his subject, which he found obscure and has left so, in which spinal irritation is inferred from *supposed* secondary phænomena, and not from manifest disease of the vertebral column, he has erred either in not limiting his measures to the assumed great original of all the symptoms, and thus proving the doctrine; or, by not omitting these local measures, and, if successful, thus aiding to disprove it. This polypharmacy, evidently the result of a latent want of confidence in his own theory, has deprived the cases relating to this branch of the subject of much of their values; which is the more to be regretted, because the public may be said to have returned the Scotch verdict "not proven" on the evidence furnished by Dr. Marshall's predecessors, and to regard the case as still open, and requiring additional and well-sifted testimony for its final settlement.

Art VI.

Ueber den Markschwamm der Hoden. Vom Dr. Otto Baring, practischem Arzte und Wundarzte in Hannover. Göttingen, 1833. 8vo. pp. 237.

A Treatise on the Medullary Fungus of the Testicle. By Otto Baring, Doctor of Medicine and Surgery.

Patient industry, indefatigable research, and voluminous results have long characterized the labours of the German writers, and the author of this work has omitted nothing which could tend to establish his nationality. We have here above two hundred octavo pages, devoted to the description of one particular disease in one particular organ of the body: and yet every page bears the stamp of much patient investigation and careful diligence bestowed upon the composition before it was committed to the press. Dr. Baring has dived deeply into the writings of his predecessors and his contemporaries, and, with one or two slight exceptions, we believe there is not an author who has published on the subject of fungus during the last five and thirty years whose opinions are not collected and arranged in the work before us. Not only have the well known treatises on this subject by English, French, German, and Italian surgeons been analyzed and compared, but monographs, papers, and single cases have been hunted out from the different journals in which they first saw this light, and where they might have slumbered for ever, had they not been discovered and seized upon by this indefatigable inquisitor.

It is much to be regretted, that many of the German authors, who raise such vast monuments of their industry and patience, never arrive at what should be the most useful results of their labour and ingenuity; that, notwithstanding the mass of information which they love to collect, embracing every thing which is, or ever has been known on the subject, they do not always avail themselves of the opportunity which such an intimate knowledge, so much accumulated evidence must afford them, of giving to the world those rational and sound deductions, and inferences from the experience of our predecessors, which alone can render that experience beneficial to others. It is only the zealous collector of scattered observations, and the judicious collator of discordant opinions, who can be considered as properly fitted to weigh, and pronounce judgment on their accuracy and importance. No second person can thoroughly enter into the author's ideas; and the conclusions arrived at by him who has carefully waded through the mass of evidence, must necessarily be sounder, and more valuable than those of the mere reader, who finds the detail ready furnished for his hasty perusal. The learned and industrious author of the present treatise is not entirely free from the charge implied in these remarks; still it will be found that his labours are far from being unproductive of important practical fruits.

The first two chapters of Dr. Baring's work contain a literary, historical, and chronological account of the fungous disease in general, as it shows itself in the various tissues of the body. In these the author has collected and compared the different notices which have been furnished from time to time by the English, French, German, and Italian surgeons, respecting this malady; and with considerable ability has succeeded in clearing away the obscurity which enveloped it, and reconciling the discrepancies, which in great measure were rather apparent than real, and resulted chiefly from the endless variety of names adopted by different writers to signify one and the same affection of the body.

It is flattering to our national vanity to be assured by so competent an authority, that the English medical writers were the first to point out and describe clearly the fungous disease as distinguished from other malignant disorders.

The French surgeons seem to have entirely misapprehended the nature of the disease as described by Hey and Burns, probably owing to the somewhat inappropriate name of fungus-hæmatodes given to it by those authors. To this name they attached the idea of varicose tumours, nævi, aneurisms by anastomosis, and in fact every thing but that of the disease which was intended to be described; and whilst they identified the fungus-hæmatodes with a morbid and dilated condition of the blood-vessels, they naturally missed the true character of the disease which the English had designated by the above appellation. Thus it happened, that Roux, in the year 1814, on being shown a case of fungous testicle, which was extirpated in his presence by Sir Astley Cooper at Guy's Hospital, expressed his astonishment, and confessed that he as well as his countrymen had entirely mistaken the descriptions of the English authors on this subject: at the same time stating that the disease in question was that variety of scirrhus which the French had long known under the name of soft cancer, remarkable for its rapid progress, soft and pulpy texture, &c. Indeed, most of the French authors, including Dupuytren, Delpech, Cruveilhier, and Breschet, who have accurately described this malady under a variety of names, most of which have reference to its cerebriform structure, insist upon its being a variety of scirrhus, frequently forming the last stage or termination of true cancerous affections. It is right however to observe that Laennec appears to have distinguished the disease, as early as 1805, by the name of Dégénérescence Cérébriforme, and subsequently, in his article on Pathological Anatomy in the Dict. des Sc. Méd., he gives a masterly description of it under the name of "Matière Encéphaloide ou Cérébriforme."

Among the Italian surgeons, Scarpa appears to have devoted considerable attention to this disease; but maintains that it only occurs in the cellular tissue under the skin, and the interstices of the muscles, and, somewhat unaccountably, denies its existence as attacking the substance of the different viscera. The medullary fungus of the testicle and the mamma, he seems to consider as a strumous affection of those organs. It is unnecessary to say how much he erred in this opinion.

It may readily be imagined that amongst the German writers, there were more than one who endeavoured to reconcile the discrepancies of other medical historians, and to form some more distinct arrangement of those diseases which were known under the generic cognomen of malignant. Accordingly we find that Meckel, Casper, Langenbeck, Walther, Otto, and many others have contributed largely on this subject. They appear by common consent to have given the name of medullary fungus to the disease in question, and the result of their researches has an evident tendency to distinguish it from cancer, although it must be allowed that the two morbid affections become occasionally combined in the same individual. There exists a remarkable coincidence, in many points, between these authors and the English writers on the same subject. Dr. Baring has adopted the term medullary fungus as being most characteristic of the nature of the disease, and generally used by his countrymen.

After the literary and historical account of the medullary fungus as a distinct disease, the author enters upon a general description of it, noticing its origin, development, and termination, as it occurs in the different tissues and regions of the human body. As, however, he does not pretend to have made any discoveries with respect to the anatomical texture of the disease, we must pass over this part of the work, valuable as it is, as a compendium of all that is known on the subject.

Having at length arrived at the proper subject of his book, the medullary fungus of the testicle, the author presents us with a very full, clear, and satisfactory account of the disease, from its commencement as indicated by a slight enlargement and hardness of the organ, to its termination in the death of the patient, if not previously arrested by the operation of extirpation. We shall forbear to make any extracts, as the history corresponds in a remarkable degree, not only as regards the leading points, but in most of the minuter particulars, with the description given of the fungoid disease by Sir A. Cooper, in his splendid work on the testis. Indeed it throws if possible additional value on the evidence of our distinguished countryman, and confirms the accuracy of his observation, when we find the same conclusions are arrived at by such different methods. Sir Astley has given us a vivid and graphic account of this disease from his own long and most extensive experience. Dr. Baring has added to his own personal observations a patient investigation of the same disease, as detailed by the most eminent surgeons of all countries. He has weighed the force of their evidence, tested their accuracy by comparing them against each other, and by a judicious selection of facts has arrived at conclusions differing but slightly from those of his illustrious predecessors.

Sir Astley Cooper's experience has taught him that the fungoid disease always commences in the body of the testis. From the researches of Dr. Baring we learn, that the epidydimis is occasionally the primary seat of the affection. The personal observation of Sir A. Cooper, and the collected experience of Dr. Baring are also at variance, respecting the ulceration of the scrotum in the latter stages of the disease, and the formation of granulations bearing the true medullary fungoid character. Sir Astley appears to consider this as not a very unfrequent termination of the complaint, while our author arms himself with the authority of a host of continental surgeons, and decides that it is of extremely rare occurrence. He seems to consider the tardy ulceration, or rather the non-ulceration of the scrotum as a phenomenon, for which he confesses that he is utterly unable to account, and expends much labour and considerable ingenuity in endeavouring to prove that there is a disinclination for the disease to reach the surface, which is peculiar to the fungoid affection of the testicle.

It has indeed always struck us, that in portraying the termination of this disease in its worst and most loathsome form, Sir A. Cooper has unintentionally given the reader to understand that such a termination is more frequent than common experience would induce us to suppose, and he subsequently remarks, that the patient will often sink under symptoms of general cachexia before the skin has given way. There can be no doubt, that medullary fungus of the testicle has not the same tendency to produce ulceration of the skin, as a similar affection of any other part of the body, equally superficial in situation, and this peculiarity, which is so puzzling to Dr. Baring, admits we conceive of an easy explanation on rational grounds. The extreme capability of extension which the scrotum possesses, as evinced in hydrocele, and more especially in large irreducible herniæ, readily allows the testicle to acquire an enormous size, before any great degree of tension or discoloration of the skin takes place: the disease thus becomes fully developed, not only in the original seat, but frequently in other more vital organs of the body, and the patient sinks from constitutional symptoms, while the only visible local affection is yet in progress towards what we are led to consider the climax of the disorder. We may also add, that, owing to the free communication between the testicle and the belly, the disease is rapidly extended along the absorbent vessels of the cord; and the entire lymphatic system of the abdominal cavity may become extensively affected, long before there is any tendency to ulceration on the surface of the scrotum.

We must be allowed to express a doubt as to the correctness of Dr. Baring's opinions respecting the duration of the fungous disease, which, he says, is frequently several years: fourteen years is his maximum. We are well aware that the complaint often supervenes upon chronic enlargement of the testicle, injuries of the organ, or other exciting causes, but our own experience has taught us that when the true fungoid character is once established, its progress is much more rapid than is here described, generally terminating the life of the patient within a twelvemonth from the commencement.

Dr. Baring also refers to the secondary enlargement of the inguinal glands as a usual accompaniment of fungoid testicle, and places it among the early symptoms; at the same time saying that the period of its appearance is very uncertain, as it sometimes comes on at the commencement, sometimes only at the latter stages of the disease. This, according to our experience, is hardly correct. The inguinal glands do not commonly participate in the complaint; and never until the skin of the scrotum, or the cellular membrane immediately subjacent, has become affected. The lumbar glands within the abdomen take on the morbid action much more readily, because they receive the absorbents direct from the testicle; whereas, the inguinal glands which communicate only with the scrotum, do not sympathise until ulceration is about to take place.

Our limits will not allow us to follow Dr. Baring through the long train of constitutional symptoms which characterize the progress of this disease, and the miserable state of cachexia which at length terminates the life of the sufferer; neither can we give even a mere outline of the vast number of cases, accompanied by post-mortem examinations, which are brought forward to illustrate the pathology of medullary fungus, as first developed in the testicle, and subsequently extending to nearly all the viscera and tissues of the body. These are extended through a space of more than sixty pages, and contain the history of dissections made by all the most eminent surgeons and pathologists of Europe, including some interesting cases in which fungoid tubercles had become developed on the surface of the arachnoid tunic and within the substance of the brain. The following are the author's conclusions respecting the nature and mode of propagation of the fungoid disease from its original seat in the testicle to the other textures of the body:—

"1. It is not the primary fungoid disease of the testicle itself, but the subsequent degeneration taking place in the abdominal and thoracic cavities, which terminates the life of the patient.

"2. These abdominal and thoracic degenerations are either fungoid or closely allied to fungus in all their physical qualities.

"3. A careful dissection will enable us to demonstrate the progress of the fungoid disease, step by step, as it becomes extended (through the absorbents of the cord) from the testicle to the more distant organs of the body.

"4. Although the medullary fungus is found to attack almost every organ as a primary disease, yet in the cases above alluded to, it must be regarded, as well in the larger parenchymatous viscera as in the lymphatic system itself, as a secondary and consecutive, and not as a primary affection." (P. 108.)

These views, as the author justly remarks, involve a most important principle as regards the prognosis to be given in incipient cases of fungoid testicle, and the hopes which may be afforded by an early extirpation of the original seat of the disease.

The fourth chapter, which contains the diagnosis of fungoid testicle, constitutes, in our opinion, the most useful portion of Dr. Baring's work. In this the author gives us a minute, faithful, and perspicuous comparison, between the disease in question and every other affection of the testicle with which it can possibly be confounded. The symptoms that distinguish fungous from scirrhous disease are thus arranged:—

"(*a*). True scirrhus of the testicle is a very rare complaint in advanced age: fungus, on the other hand, is by no means uncommon; but more frequently occurs at a much earlier period of life.

"(*b*). Scirrhus is much less rapid in its progress than fungus. Meckel judiciously observes that fungus destroys life in as many months as cancer requires years. At the same time it cannot be denied that occasionally fungus is also tardy in its course.*

"(*c*). The external form of the testicle differs in each affection. The cartilaginous stony hardness; the uneven tuberculated surface, conveying a sense of solidity but not the slightest elasticity to the touch; the irregularity of shape assumed as the oval figure becomes lost; all of which characterize scirrhus from its commencement, are wanting in fungus. This latter is soft and elastic to the touch, conveys a deceptive feeling of fluctuation, and always attains its natural oval form. Scirrhus never reaches the size which medullary fungus attains in the last stage of its development.

"(*d.*) In scirrhus, the cord presents the same knotty hardness as the testicle, so that it often enlarges to more than three times its natural volume. This is not the case in fungus, where the cord seldom or never undergoes any very important change; it never becomes very hard, but on the contrary is yielding and elastic to the touch; and this condition, as we have mentioned above, is produced merely by the distension and varicose state of its lymphatic vessels.†

"(*e.*) When scirrhus is allowed to run its course, the testicle almost invariably contracts adhesions to the dartos, followed by ulceration of the skin and the protrusion of fungoid excrescences. This seldom or never takes place in the medullary fungus.

"(*f.*) The absorbent glands which become enlarged during the progress of scirrhous disease never attain that size or present such frightful masses as we find supervening upon the fungoid affection.

"The anatomical structure of the two morbid affections is no less different. The scirrhous testicle presents a hard white compact mass, resembling bacon, and intersected with fibres of a cartilaginous consistence: it feels like gristle, and is of a laminated texture furnished with divergent white striæ. Fungoid testicle, on the other hand, is characterized by the softness and sponginess of its texture, the varying nature of which has already been described.

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* We have already had occasion to notice what we considered an erroneous opinion of Dr. Baring respecting the occasional slow progress of the fungous disease.

† Sir Astley Cooper entertains a different opinion, as he says the cord frequently presents an immense enlargement, accompanied with induration.

"There is one circumstance which might occasionally mislead us in our investigation. It sometimes happens that during the development of medullary fungus in its advanced stage, particularly during the softening down of the encephaloid structure, isolated hard spots become apparent to the touch. These, however, are by no means essential to the fungoid structure, but depend upon small osseous or cartilaginous deposits, which now and then would seem to be accidentally produced in the last stage of this disease of the testicle. Scirrhus is, from the commencement, hard over the whole surface of the tumour, while the soft spongy nature of the swelling forms the chief characteristic of fungus." (P. 113.)

We may here observe that the fungoid testicle in its incipient stage presents an almost scirrhous hardness, so as to render a correct diagnosis at this period extremely difficult. A section of the part will however shew, that this solidity of texture is more apparent than real, and depends mainly on the unyielding nature of the tunica albuginea, which for a time masks the character of the softening mass contained within it. It is not until this tunic gives way under the pressure, that the elastic pulpy structure of the disease becomes clearly developed to the touch.

But it is the differences which distinguish the fungous from the non-malignant diseases of the testicle, that are of the highest importance to the surgeon, since a mistaken view may, in the one case, involve the life of the patient, which might have been saved, or at any rate prolonged, by an early operation: or, on the other hand, may occasion the loss of an important organ where no necessity existed for its removal.

It is not the broad and well marked symptoms which accompany the full development of disease, but the more delicate and minuter shades of difference characterizing the first appearance of deviation from the normal structure, which should be carefully studied by the surgeon, to enable him to draw a distinction between the malignant affections and those of a milder character. His opinion will be of little value unless it be given before the cachectic state and failing powers of the patient, and the extension of the disease to the lymphatic system, have stamped in too fatal characters the nature of the malady. How often does it happen that the opinion of the surgeon becomes decided only by those symptoms, which at the same time declare that the period is already gone by when the antidote might have been applied!

The pages devoted by Dr. Baring to this subject, in which he treats of the diagnosis of fungus from hydrocele, hydatids, chronic enlargement, and other non-malignant affections, will not admit of condensation, but contain much valuable information carefully selected and judiciously arranged. The author has hardly laid sufficient stress on the general aspect of the patient, as a valuable portion of our diagnosis, in the early stage of the disease. Neither should the use of mercury be lost sight of as a means of determining the nature of the swelling. Sir Astley Cooper strongly advises that in all doubtful cases the patient should be put fairly under its influence. If the enlargement be of a non-malignant character, such a plan, combined with local treatment, will rarely fail of producing some impression; if, on the other hand, we find that instead of affording relief, the symptoms become aggravated under the medicine employed, then our worst suspicions will become confirmed.

Amongst the many diseases enumerated by Dr. Baring as liable to be mistaken for fungus, he has omitted to mention hæmatocele; which is sometimes produced in so insidious a manner as to render its character a matter of considerable doubt, even to the most experienced judges. It is true that in the majority of cases of hæmatocele, the nature of the disease is rendered manifest by the history of its formation: the receipt of a severe blow on the part, and the swelling rapidly succeeding to the injury, will generally afford sufficient evidence that blood has become extravasated into the cavity of the tunica vaginalis. But it sometimes happens that the symptoms of this complaint are particularly obscure, and that the effusion occurs without any previous injury. Sir Astley Cooper has recorded a case where the testicle was removed in a perfectly healthy state, together with a large quantity of coagulated blood, which filled up the cavity of the tunica vaginalis and simulated the appearance of medullary fungus. Two instances have come under our observation, in which the symptoms were so nicely balanced, that the patient was placed on the operating table in order that an explorative incision might be made into the scrotum, to be followed by the removal of the testicle, or the coagulum, according as the case should turn out to be fungus or hæmatocele: in the one, the incision exposed a mass of coagulated blood; in the other, a true malignant enlargement of the gland itself. The cachectic habit of body and the general want of tone, which would be likely to produce, or at any rate to accompany, the spontaneous effusion of blood, tends to throw additional obscurity over the distinguishing symptoms of these two diseases, and whether a hæmatocele be mistaken for fungus, or fungus for hæmatocele, the result may be equally disastrous to the welfare of the patient and to the reputation of the surgeon.

The fifth chapter contains Dr. Baring's observations on the etiology of the fungous disease, or the causes which are supposed to produce it; and he freely confesses his inability to explain away the obscurity in which this subject is involved. The proximate cause may frequently be traced to a blow or squeeze, or some mechanical injury offered to the part, which excites an inflammation more or less acute, or very often of an inappreciable character, but producing a gradual change in the structure and organization of the testicle.

Although such a consequence resulting from a simple injury, clearly evinces a state of system favorable to the formation of malignant disease, Dr. Baring deprecates the opinion that the appearance of fungus in one particular organ (whether supervening after violence or arising spontaneously) is to be considered as the indication, or rather as the decided proof, of a fungoid tendency pervading the whole body. He contends that the subsequent degeneration of structure which takes place in the various viscera of the body, is, in the majority of cases, the direct consequence and result of the primary affection of the testicle; and brings forward the appearance presented by post-mortem examinations, to prove that a chain of morbid communication will be found to exist between that organ and the internal structures which subsequently become diseased. The testicle he considers as the starting-point, and the lymphatic system the vehicle by which the fungous degeneration is propagated, as he affirms, by gradual, successive, and regular steps; first to the neighbouring organs, and lastly to the more remote tissues.

We fear that the favorable opinions which Dr. Baring entertains respecting the local nature of the disease, are more calculated to encourage the hopes and allay the apprehension of patients, than to relieve medical readers from the apprehension of the existence of a fungous diathesis. We think it would not be difficult to prove that in very many cases, where an operation had been performed, the disease has been found to return in situations which had no apparent connexion with the original seat of the malady. The error, however, if error it be, is certainly on the safe side, as it will have the effect of inducing us to watch the first appearance of the complaint, carefully to study the diagnostic symptoms in its incipient stage, and to give the patient the only chance that can be afforded him, by an early removal of the diseased organ.

In respect to the prognosis to be given in this disease, it is hardly necessary to say that Dr. Baring anticipates a more favorable and permanently successful result from an early operation, than the majority of his professional brethren would feel themselves justified in entertaining. But it is right to mention that he corroborates his opinion by the history of four cases, in which the operation of castration was performed by Rust of Berlin, by Langenbeck of Göttingen, and by Hagedorn of Stade. In two of these cases, a period of five years, in another of three years, and in the fourth of two years, had elapsed since the removal of the testicle; and the patients were still in the enjoyment of perfect health, and had not experienced the slightest return of the complaint.

We shall conclude our review of Dr. Baring's work by quoting, in his own words, certain rules laid down, by which our opinion is to be guided, when called upon to decide on the propriety of performing an operation; and by which we may in some measure estimate the prospect of permanent relief afforded to our patient by the removal of the testicle.

"The operation of castration is contraindicated in those cases where both testicles have become affected at the same time, or where the disease of these organs is either preceded or accompanied, or becomes shortly followed by other swellings of a similar nature on the different parts of the body; more especially when internal tuberculous enlargements can be felt through the abdominal parietes. Any existing derangement of the respiratory and digestive functions should always excite our suspicion, more particularly if these untoward symptoms refuse to yield under the exhibition of appropriate internal remedies. In all such cases, we shall feel ourselves not only authorized, but compelled to declare our opinion, that the local disease of the testicle is indeed the symptom of a disposition to fungoid degeneration pervading the whole system; of a state which no operation can remedy. Again, the spontaneous occurrence of fungus in the testicle, unpreceded by any mechanical injury or lesion of the part, must always be regarded with a suspicious eye; as it indicates a constitutional tendency to the disease, and requires a more than usually careful investigation into the general health and condition of the patient before an operation is decided upon.

"It is worthy of remark, that although the secondary enlargement of the inguinal glands, supervening upon fungoid affections of the testicle, undoubtedly indicates the absorption of the poison; yet, such enlargement affords by no means so unfavorable a prognosis as those appearances which evince the extension of the disease through the agency of the spermatic cord: in the former case the absorption has taken place by means of the lymphatics of the scrotum only, and, under such circumstances, should the cord still remain healthy, should the pelvis and belly be still free from disease, the chance of an operation is not altogether to be rejected; although it presents a much less encouraging prospect than might be entertained if the glands of the groin still preserved their natural condition.

"On the other hand, we may consider that the operation of castration should be had recourse to in all those cases where the ordinary health of the patient remains undisturbed during the development of the disease in the testicle, and especially where the fungoid enlargement appears to result from some external cause or mechanical injury: in short, wherever, after a careful investigation into the constitutional symptoms, we feel justified in considering the disease as a local affection, unaccompanied by any of those contraindications which have already been detailed."—(P. 195.)

While prosecuting our analysis of Dr. Baring's work, we have occasionally compared his voluminous details with the concise and graphic descriptions of Sir Astley Cooper; and while we eagerly render to our German brother all the praise which he has so justly earned by his indefatigable research and industry; we cannot withhold the expression of our gratitude towards our own illustrious countryman for having compressed the result of so much experience into so small a space. Dr. Baring has furnished us with a book of reference, in which the enquiring student will find all that has ever been written or is known on the subject; Sir Astley Cooper has presented us with a practical manual, invaluable to the surgeon from its conciseness and accuracy. Drawing a comparison between the two authors, we may indeed say, that, to the one, little could be added to render it more useful; from the other nothing could be taken away without detracting from its worth.

PART SECOND.

Bibliographical Notices.

Art. I.—*Nouveau Manuel complet d'Auscultation et de Percussion, ou Application de l'Acoustique au Diagnostic des Maladies.* Par M. Raciborski, m.d.p., Ex-chirurgien Militaire, Professeur de Médecine, Chevalier de la Croix Militaire d'Or de Pologne. *Paris*, 1835. 12mo. pp. 302.

New and complete Manual of Auscultation and Percussion, applied to the Diagnosis of Diseases. By M. A. Raciborski, m.d., &c. Translated by William Fitzherbert, b.a. Cambridge. *London:* sm. 8vo. pp. 204. 1835.

The writings of Williams, Stokes, Graves, Elliotson, Corrigan, and Hope, in this country, and of Colin, Louis, Andral, Bouillaud, Piorry, and others, on the continent, have perpetuated and familiarized the labours of the illustrious Laennec, so as to render any formal introduction of the subject-matter of the present work wholly unnecessary.

Auscultation and percussion, however, though familiar to the ears of British students and practitioners, are yet very far from having attained their acme of practical application, and we hail with pleasure every effort calculated to redirect attention to a study which we believe capable of removing much of the obscurity that too often attends the practice of the most enlightened members of a confessedly difficult profession.

As old advocates for the advantages of physical diagnosis, we will venture to commence the brief notice which we mean to give of M. Raciborski's work, by advising him, and all who write in defence of auscultation and percussion, not to weaken their arguments by seeking them in the extremes of ignorance and inattention, but rather to contrast the superiority of physical examination, with the practice of the most sagacious and enlightened, when deprived of such invaluable auxiliaries. All dogmatic assertions affecting questions foreign to those under discussion, and of admitted difficulty, should be carefully avoided; for we do not hesitate to say, that auscultation and percussion are *not* capable of "detecting the *least vestiges* of a pathological condition."

Percussion, it is well known, was discovered by Auenbrugger, but scarcely practised until revived by Corvisart. Its subsequent progress is mainly to be ascribed to the indefatigable and ingenious researches of Piorry, who not only demonstrated the superiority of mediate over immediate percussion, but successfully extended its utility to the examination of the abdominal as well as the thoracic organs. In England, we feel convinced that percussion has not been sufficiently attended to; both its difficulties and advantages have been much underrated, and we may almost say, that we have scarcely met a single practitioner who could practically avail himself of all the advantages it is capable of affording. Abdominal percussion is even now only occasionally practised, and we have often witnessed much uncertainty in the minds of practitioners whether a tumid abdomen was distended with air or fluid, whether the intestinal canal was loaded with solid or gaseous contents; whether tumours depended on a partially inflated intestine, or were the result of morbid deposit; doubts which could scarcely be agitated were percussion understood and properly applied. In the chapter on Percussion of the Thoracic Organs, the author has aimed at being minute, and no doubt intended to be clear; but he has fallen into the error of obscuring a simple subject by the multiplicity of details, and increased the confusion by pedantry of expression and superfluous periphrases. The uninitiated student will extricate with difficulty the valuable materials of the chapter from the ponderous verbiage which conveys them; and we regret that the difficulty has been rather increased than diminished by the translator. A small plate, with the outline of the different regions and subjacent organs, would have benefited the reader far more than pages of descriptive details.

Surely the portion of the chest corresponding to the lungs might be expressed more briefly and clearly, than as the "supra-diaphragmatic portion, splanchnological thorax, or thoracic cavity."

The necessity of attending to individual varieties is judiciously insisted upon. Our standard of what is healthy or morbid must be founded rather upon the transition in the sounds as we pass from organ to organ, than by comparison with any fundamental type, which indeed does not exist.

It might have been mentioned as a distinguishing mark of dulness of percussion arising from the liver or the lung anteriorly and inferiorly on the right side, that, if the patient draws a deep breath, the hue of dulness is depressed when it depends on the liver: if on the lung, it remains fixed. No allusion is made to the valuable information to be derived from ocular inspection of the chest; nor is the subject of mensuration of the thorax adverted to throughout the work: yet these two methods, although not strictly included under the terms which form the title of the volume before us, are almost inseparable from the practice of auscultation and percussion. To the former of these (inspection) we would particularly direct the attention of the student, as affording signs, at once the simplest, most easily learnt, and most certain. In the earlier stages of phthisis, it is often possible to detect a marked difference in the expansion of a part or the whole of one side of the chest when the stethoscope gives us little or no information, and this even (at least in females) without any removal of the clothes.

Much unnecessary importance is attached to the theory of M. Beau, who thinks that the sound of normal respiration is produced by the resonance of the whole column of air inspired or expired against the soft palate and adjoining parts. Authors, especially of Manuals, should recollect that there are certain hypotheses which may be safely left to refute themselves.

In enumerating the normal varieties of the respiratory murmur, the important modifications produced by age are entirely overlooked.

Puerile respiration in the adult is attributed by M. Raciborski to increased dilatation of the air-cells, which, if we may depend on the experiments of Cruveilhier, are only partially inflated during ordinary inspiration. The same observer has remarked that the cells of the upper lobe were most habitually dilated; an opinion advanced also by M. Broussais, who saw in this supposed local increase of function the cause of the frequent inflammation of this portion of the lung, and its peculiar liability to tubercles. The pathological and physiological part of these opinions is, we believe, in opposition to the best analysed facts, but it is not our province at present to refute them. As to the cause of the puerile respiration, it no doubt often depends on the physical conditions of other portions of the lung; but when it is general, and ceases and returns without any evident modification of the thoracic or diaphragmatic movements, it must probably be referred to increased functional activity, connected with some peculiar condition of the nervous system.

The author has omitted to notice what we believe to be highly important, in a practical point of view, to the young auscultator; viz. the necessity of paying attention to the *manner* of the patients' breathing. Many mistakes in diagnosis have, we are sure, arisen from the observer not being aware of the modifications in the respiratory murmur depending on the mode of inspiration and expiration. Care should be taken that no unusual effort be made; that the ribs are distinctly elevated and depressed; that the feeling of agitation frequently felt at a first examination has subsided; and that no unnecessary sounds are produced by the nose or mouth. The most contradictory results may be obtained by different observers who are unequally impressed with the importance of the above precautions, the same chest being to one an example of normal respiration, while to the other there is an almost total absence of respiratory murmur.

We also regret that no notice is taken of the *expiration* as a stethoscopic sign of value and importance. In the natural conditions of the lung, there are some slight variations as to intensity; but to the ear the expiration appears always deeply seated, shorter in duration, and more bronchial in its character, than the inspiration, and evidently produced in the larger bronchi. In proportion as the density of the pulmonary parenchyma is increased, the expiration becomes more and more superficial, approximates both in duration and character to the inspiration, of which it seems rather a repetition than an echo; and, in cases of emphysema and bronchitis of the smaller tubes, is often more distinctly heard than the inspiration. The fact of expiration being increased under the opposite conditions of condensation and rarefaction of the pulmonary structure, may be reconciled by the consideration, that increased expiration depends on diminished elasticity as well as increased density of the lung. The former condition renders the entrance of air into the imperfectly collapsed lung too gradual for the production of sound, while, during expiration, the superficies of the organ being compressed by the collapsing parietes, the contained air is more or less suddenly expelled through the smaller bronchi, and sound is the consequence. When the lung is condensed, the superior conducting power of the medium sufficiently explains the superficial state of the expiration. We purposely direct the reader's attention to the subject, satisfied that the study of the expiration is of peculiar value in relation to the detection of tubercular deposition in the substance of the lungs, before it is capable of being discovered either by percussion or modified inspiration.

M. Raciborski attributes emphysema to the mechanical action of the cough, distending the bronchi and air-cells, and destroying their elasticity. Under these circumstances, a portion of the inspired air remains imprisoned, while the fresh supplies are no longer capable of producing the murmur arising from the gradual vesicular expansion. We think this explanation in many instances correct, but cannot apply the term "Hypothetical" to the opinion of Laennec, who attributed emphysema to the rarefaction of the structure of the lung; for there are certainly cases in which the cells are not only distended, but extensively ruptured, in the way he has so accurately described.

The author's assertion that "the 'rubbing sound' (*bruit de frottement,*) is heard whenever a false membrane exists between the two pleuræ, whether it adheres to only one of them, or extends from one to the other," is far too absolute. In cases where adhesions are very recent and soft, where they are chronic and universal, where they are thinly scattered and very cellular in character, and in many other circumstances which interfere with the expansion of the affected side, auscultation is incapable of detecting their presence. It has been doubted whether the sound which has been aptly compared to the creaking of new leather, and which depends on a fibro-cartilaginous membrane, can be heard in the clavicular portions of the chest, when the movements of the lung are so limited. We can amply confirm the affirmative experience of Dr. Stokes on this subject; and can state that it not unfrequently accompanies the other signs of tubercular deposit; and, where it forms the parietes of a large excavation, and, consequently, where motion is impossible; it may be produced at pleasure by pressure on the corresponding portions of the chest, either by the ear or stethoscope.

The sibilant and sonorous bronchi are too hastily noticed. The young auscultator should, at least, be informed that the former are seated in the smaller bronchial tubes, the sonorous in the larger. It is justly remarked, that they are more distinctly heard after expiration than inspiration. Dance considered this to depend on the air being forced out more gradually, on account of the diminished energy of expiration; but we should rather say that the obstruction being seated in the bronchial tubes, these were acted upon during inspiration by the column of air filling their caliber and accumulating beyond them; while, during expiration, the distended vesicular portion of the lung being compressed by the collapsing parietes of the chest, the air is forced through the narrowed channels of the bronchi more rapidly than it had entered, and with a proportionate increase of sound. In emphysema, where a similar phenomenon is observed, it is owing to diminished elasticity rather than bronchial obstruction. Our author again cites the researches of M. Dance in explanation of the metallic tinkling. This accurate observer attributes it to the bursting of an air-bubble on the surface of liquid. That this is frequently the case is rendered probable by the numerous experiments of M. Beau, who ingeniously explains the fact of the sound being heard during expiration, coughing, talking, &c., in the following manner. In the majority of cases the pulmonary parenchyma surrounding excavations is hepatized and does not collapse during expiration; the air, expelled from the rest of the lung, rushes through the bronchi communicating with the cavern as well as with the trachea, and again acts locally on the former as in the act of inspiration. This may occasionally be the case, but it is equally certain that neither the existence of liquid effusion or bronchial communication are essential for the production of metallic tinkling; for, as Dr. Williams justly instances, it may be heard distinctly in the meatus auditorius externus, on covering the ear with the palm and striking the back of the hand with the finger; also in many other circumstances it is quite unconnected with the conditions alluded to by M. Beau. It is, in fact, the result of vibrations in a limited and more or less elastic excavation, closed or only slightly communicating with the external air.

No allusion is made to the amphoric resonance, an evident variety of the metallic tinkling, but requiring free communication with the exterior. We have heard it remarkably distinct in a tubercular excavation occupying the upper third of the left lung.

The phenomena of œgophony and pectoriloquy are hastily and imperfectly treated. M. R. ascribes the former to the compression exercised by a small quantity of fluid causing a closer application of the pleuræ to the parietes of the vesicles, forming a membrane more or less tense applied to the extremities of the respiratory passages. We shall not decide on the value of this at least doubtful hypothesis, but remark that œgophony has been distinctly heard when no fluid existed. It is also occasionally heard where the quantity of fluid is considerable, and under similar circumstances M. Piorry has remarked a peculiar ringing tone in the patient's supra-laryngœal voice. We have ourselves seen more than one example of this.

The fifth chapter is devoted to auscultation of the heart, and contains a valuable summary both of the structure and movements of that complicated organ. As it is almost literally extracted from the valuable work of M. Bouillaud, already so fully analysed in the present number; we shall here only notice a few points, which have been hardly touched on in that article.

In the discussions by M. Bouillaud on the subject of the bellows-sound, no notice is taken of the effect of an enlarged heart, acting on the pulmonary substance, in giving rise to this sound in the cardiac region. The sound occasionally produced by this cause has been supposed by experienced stethoscopists to arise from valvular disease, and is so similar in tone and *rhythm*, that without other distinctive characters the error is almost inevitable. The fact of a bellows sound occasionally being produced by the influence of the heart upon the lung, has been adverted to by Laennec, Law, Hope, and others, but it has been attributed to the compression of the thin layer of the lung intervening between the pericardium and thoracic parietes, and considered to be constantly synchronous with the respiration.

We are satisfied that the seat of compression is one or more of the larger bronchi, and that, when considerable, the impediment to the entrance of air into corresponding portions of the lung is sufficient to produce a succession of interrupted rushings of that fluid during the effort of respiration, which are not to be distinguished as sounds, from those depending on the heart itself.

When aware of the possibility of such a result, its reality may easily be determined by making the patient hold his breath, when the sound immediately disappears. Its existence on the right side or the left, its affecting the upper or lower lobes of one or both lungs, may assist our conclusions as to which side of the heart is principally affected. Interrupted respiration, voice and cough, are necessarily propagated in the lobe where the ramifications of the compressed bronchi terminate, and diminished respiration with accumulated bronchial secretion are among some of its secondary effects.

Though certainly difficult, we cannot coincide with the opinion of M. Raciborski, derived from M. Bouillaud, that all distinction between healthy sounds of the right and left sides of the heart is impossible. Their exact limits cannot certainly be defined, but the first sound is clearer under the sternum and a little to the right of that bone than over the region corresponding to the left ventricle. In cases of disease, as for instance hypertrophy of the left or dilation of the right ventricles, the distinction is much more palpable.

We are also desirous of impressing the young auscultator with the necessity of attending to the direction and extent of the cardiac sounds. When the lungs are healthy, the sounds from the right and left sides of the heart have their distinct mode of transmission through the chest, and attention to this is of great importance when unravelling the often difficult problem of which is the affected side. The relative intensity of the heart's action under the sternum, below the right and left clavicles, in the epigastrium, at the lower and posterior portions of the chest, should be carefully and successively studied, and if we conjoin the results with the comparative examination of the arterial and venous circulation, not omitting the important aid of percussion, we shall be able to form a far more accurate diagnosis of the nature and seat of cardiac disease than is generally thought attainable.

The same element of the direction of the sound will greatly assist us in our attempt to solve the very difficult problem as to which of the orifices of the heart is the seat of disease, in the case of anormal sounds.

Should the obstruction be situated in the sigmoid valves of the aorta, the anormal sound will be conveyed along the large arterial trunks, and be heard in the carotids and subclavians, while over the heart it will be limited to the region corresponding to the left ventricle; should, however, the auriculo-ventricular orifices be diseased, no sound will be transmitted through the vascular system, but it will be more diffused over the base of the heart, and in cases of dilated auricle will extend upwards towards the clavicle, at a certain distance from which it will suddenly cease. These remarks are principally applicable to the left side; the comparative rarity of valvular disease in the right diminishing the importance of correct diagnosis. We are quite aware that these distinctions are not without difficulty, and that they require time and attention to be appreciated; but we are equally aware of their practical utility, and without regard to minutiæ, we seriously abridge the advantageous application of auscultation and percussion.

Another novel application of auscultation has been discovered by Dr. Ficher, an American physician, who cites several cases of meningeal inflammation, where, by applying the ear to the head, a distinct "encephalic bellows-sound" was heard, depending, he believes, on the compression of the numerous arteries at the base of the brain. What strongly confirms the justice of this opinion is, that the sound is considerably diminished, or wholly disappears, when the circulation in the carotids is impeded or arrested. We have ourselves, however, no practical acquaintance with this fact.

A separate chapter is devoted to the important and interesting application of auscultation to pregnancy, and contains an intelligent summary of the principal results, though without reference to the ingenious researches of Dr. Kennedy. The cause of the placental sound has given rise to much diversity of opinion; and, since it is still *sub judice*, we shall detain the reader for a short time, while we endeavour to arrive at the most probable conclusion on the subject.

M. Kergaradec considered it produced by the passage of the blood through the placental vessels; Laennec placed it in the uterine arteries; M. Paul Dubois in the vascular system of the tissue of the uterus generally; Dr. Kennedy in the uterine arteries, aided probably by the circulation in the maternal placenta; and a very recent writer, in the enlarged uterine vessels corresponding to the portion immediately connected with the placenta.

Admitting any one of these hypotheses, perhaps the majority, if not all of the phenomena might, to a certain extent, be accounted for; but, believing that it is always better to extend the applications of known principles than to invent new ones, we shall give the preference to the opinion of M. Bouillaud, who attributes the placental murmur to the compression of one or more of the large vessels of the abdomen, as the hypogastric and external iliac arteries, by the uterus charged with the produce of conception. In the first place, it is not probable that the action of the mother's heart should be propagated so distinctly to the last ramifications of the uterine or placental vessels, and retain its intermittent character. Such a state of circulation would be different from any we are acquainted with in the tissue of our different organs, and difficult to reconcile with the fact of the fœtal circulation being wholly independent, as far as rhythm is concerned, of that of the mother. Under all other circumstances where a similar sound is produced, it may be traced either to compression or obstruction of the cavities of the heart or large vessels; and the nicest and most practised ear, as Dr. Montgomery observes, (Cyclopædia of Practical Medicine, art. *Pregnancy*,) cannot detect any difference between sounds produced by these conditions and those accompanying the pregnant uterus. This accurate observer has recorded a case of enlarged carcinomatous uterus, where the phenomenon was heard in the most perfect manner, and another instance of abdominal tumour compressing the aorta, where the sound was equally distinct; and he mentions the well-known fact, that it may at any time be imitated by pressing the end of the stethoscope over the region of the iliac vessels. M. Bouillaud has succeeded in displacing the placental murmur by making the patient lie alternately on the right or left sides; and we have ourselves distinctly produced the same effect. Our own experience is also opposed to the generally expressed opinion that the maximum point of intensity of the sound is always identical in the same individual; the fact of the sound being limited, in the great majority of instances, to the placental side of the uterus, would simply depend on only one artery being compressed; and probability is greatly in favour of that pressure coinciding with the heaviest portion of the womb.

A still more powerful argument in favour of the sound being the consequence of uterine pressure in one or both of the iliac arteries, is its being heard over the femoral artery, and on the side corresponding to the uterine murmur. By changing the position of the patient, we have been enabled distinctly to transfer the bellows-sound from one femoral artery to the other. It is, however, but right to mention that this result has been verified in only a single instance; no other opportunity for careful examination having presented itself since our attention was directed to this particular view of the subject.

The more diffused character of the sound, in the advanced stages of pregnancy, may be accounted for by the greater arterial surface exposed to the uterine pressure; and the sound being occasionally audible for a short time after the placenta is detached, but instantaneously ceasing when contraction has taken place, would in the first place depend on the volume of the uterus not having materially lessened, and in the second, on the conditions necessary for pressure no longer existing. We may also advert to the fact of the sound never being detected before the uterus has risen above the margins of the pelvis, or, in other words, until it would be capable of acting in the manner we have supposed; and every writer has described the placental murmur as most distinctly heard in one or both iliac regions. The changes in the character of the sound by the cessation of the fœtal circulation, by the removal of the placenta, the death of the fœtus, or tying the cord, may all be explained by the concomitant changes in the volume and weight of the uterus.

The fact that a bellows-sound can be detected in cases of bronchocele, as first noticed, we believe, by Dr. Forbes, is rather confirmatory than opposed to the views we are advocating. The carotid arteries are in precisely analogous situations to the iliac, and a bellows-sound existing or not existing under these circumstances, with all its various modifications, is simply depending on the interference or non-interference of the swelling with the large cervical arteries, and not upon any vascular peculiarity of the tumour itself. We have recently met with an instance in which the evidence of this was most satisfactory: the middle lobe being largely developed and presenting no bellows-sound, while the lateral lobes, of very moderate size, but passing between the sterno-cleido mastoidei muscles and the carotids, allowed it to be distinctly heard. In answer to the enquiry whether the same result will be obtained in active hypertrophy of other parts of the system, we would reply, that we are not aware of any bellows-sound having been heard where no arterial obstruction could be suspected. We feel therefore justified in suggesting the latter condition as the real source of the sound wherever it may be found.

The remainder of the work is devoted to the application of auscultation and percussion to the diagnosis of particular diseases.

The first chapter is devoted to diseases of the abdomen, the second to diseases of the chest.

The section on diseases of the liver is not sufficiently complete for every purpose of practical diagnosis. M. R. very properly insists on the advantages resulting from attention to the effects produced by change of position; but in addition to what we have already pointed out, as a distinguishing mark between dulness of sound arising from the liver or the hepatized right lung, he might have insisted upon the absence of bronchophony over dulness corresponding to the liver; and the state of the intercostal spaces, which are filled up and even prominent when acted upon by fluid, depressed when answering to solid hepatic enlargement. Dr. Stokes has also shown that where the liver is depressed below the edges of the ribs by pleuritic effusion, there is a distinct intermediate sulcus or depression formed by the imperfect adaptation of two convex surfaces, and which does not exist in cases of enlarged liver. The hypochondrium is also much less everted, the edges of the false ribs are less thrown outwards where the liver is simply depressed than where it is enlarged.

We have also derived assistance, particularly in stout subjects with enlargement of the left lobe, by defining the extent over which the cardiac sounds are propagated below the pulmonary thorax; finding them cease suddenly below the limits of the liver.

In addition to the author's remarks in the section on dilatation of the stomach, we would observe that where the volume of the organ is considerably increased, its limits may be ascertained by making the patient drink a large quantity of fluid, and comparing the results of percussion before and afterwards. Auscultation would also detect the situation of the descending fluid.

The author's observations on the application of percussion to the discovery of stercoraceous concretions, distention of the bladder and abdominal effusion, are well worthy the practitioner's attention.

The disappearance of the tympanitic sound of the cæcum, by change of position, is one of the most available and convenient tests for detecting inconsiderable peritoneal effusion. Auscultation has lately been applied to the diagnosis of peritonitis, the false membrane producing a rubbing sound similar to what occasionally exists in pleuritic affections. We have not yet verified this result, though analogy is in favour of its existence.

The section on bronchitis is clear and concise. M. Raciborski thinks, and we believe justly, that it would be difficult always to explain the productions of the sibilant rhonchus by the congestion and thickening of the mucous membrane; and that most generally, this rhonchus is occasioned by a thin lamina of viscid mucus lining the internal surface of the bronchi, the caliber of which is already more or less diminished by the effects of inflammation. The sudden appearance and disappearance of the sound after the expectoration of a small quantity of viscid mucus is thus easily explained and accounted for.

The physical conditions of the lung during the progress of pneumonia are well delineated. M. R. cites two observations to prove that crepitation is not invariably present in the earlier stages of the disease, and that bronchophony may appear and disappear without being either preceded or followed by this usually attending rhonchus. To account for this, M. R. supposes that there was considerable congestion of the vesicular parietes and their consecutive obliteration. In the examples of peripneumonia notha so well described by Piorry, both the crepitous rattle and bronchophony were absent. Allied to the above facts are the interesting observations of Dr. Hudson on typhoid pneumonia, in the Dublin Medical Journal, for July, 1835. The absence of crepitation and bronchophony is ascribed by Dr. H. to the compression of the air cells by sanguineous congestion, at once interfering with visceral expansion, and leaving a disadvantageous medium for transmission of sound. In these cases bronchophony, if subsequently present, would result from the consolidation of the effused fluid.

A still more remarkable deviation from the usual physical signs, is "a tympanitic clearness on percussion over a solidified lung, without air being present in the pleura." It varies, says Dr. H., in degree rather than in kind from what we hear when percussing the empty stomach or cæcum, and resembles the metallic tinkling occasionally found in a tubercular cavity; it is also at times as clear as in a case of pneumothorax. This physical paradox is said to have been verified by dissection in four instances, and the clearness and accuracy of Dr. H.'s details entitle the subject to attention. Does it depend, asks Dr. H., on the transmission of the gastric resonance through the lung; or on the facility with which the vibrations of the air in the bronchi are communicated to a lung *solid throughout*, and therefore not permitting the loss of such vibration? For ourselves we can only say, that if the fact is undeniable, which we may be permitted to doubt, it is equally inexplicable.

The enumeration of the physical signs of pleurisy are too limited in their range. The state of the intercostal spaces, the increased size of the chest, and the effect of effusion upon the heart, liver, and spleen, should be presented to the student's attention in conjunction with the signs furnished by auscultation and percussion.

In the section on tubercles the author has advanced what we believe to be very erroneous ideas of the etiology and progress of phthisis; and the diagnosis of tubercles by auscultation and percussion appears to us to be very incompletely laid down. Indeed, in all the earlier and more important periods of the disease, so desirable a result would appear impossible; for he remarks, that it is only when tubercles acquire a *considerable volume*, and form *large masses*, that percussion and auscultation can enable us to presume their presence. No reference is made to the important facts, that tubercles are almost invariably first deposited in the upper lobes; that when in a crude and miliary state, comparative and carefully executed percussion under the clavicle will reveal their presence; that auscultation is also capable of detecting coexisting variations of the respiratory murmur; and that even before percussion is sensibly affected, an attentive study of the expiration may clearly indicate a very inconsiderable amount of morbid deposition. We are aware that all this requires long practice and close attention fully to seize and appreciate; but how greatly is the value of signs enhanced when they point out an early and often remediable state of disease, over those which tell us our only task is to alleviate the passage to the grave! It is our accurate knowledge of the locality of pulmonary tubercles, which enables us to avail ourselves of the slight physical changes detected by auscultation and percussion, changes which would be comparatively negative, were tubercles equally developed in every portion of the lungs. Pectoriloquy, cavernous respiration, metallic tinkling, amphoric resonance, &c. are all, we freely admit, valuable additions to our stethoscopic phenomena, but they too frequently possess acoustic rather than pathological interest, and have very generally been studied to the exclusion of the less palpable but more valuable signs which attend the earlier stages of disease.

The concluding portions of the volume refer to the organs of circulation; and for the reasons already given we shall pass them over without any notice, observing merely that the observations on diseases of the heart are both hurried and incomplete.

The extent of our remarks on this small volume must be attributed to the importance of the subject. M. Raciborski's manual possesses few claims to originality. It is, however, an intelligent compilation of the labours of MM. Piorry and Bouillaud, and, as such, we are enabled to recommend it. It is certainly true that the author has failed to complete the picture he has himself drawn in his preface of what constitutes a good manual. In a future edition he will add to the reputation he has already acquired, by simplifying many of the details, excluding all unnecessary matter, and extending his remarks to every means of furthering physical examination. He has displayed much want of acquaintance with the labours of other than Parisian observers; his arrangement is diffuse, his description unequal, and his expressions are often pedantic; but he is still entitled to be considered as a successful promoter of the interests of auscultation and percussion.

To Mr. Fitzherbert the student is indebted for the English translation; and if being faithful and accurate constitute merit, he deserves our praise. We regret, however, that the task was not intrusted to one more familiar with the subject, and more capable of amending and supplying the author's deficiencies. The translator appears to have forgotten that we have our own terms and technicalities, and that auscultation and percussion, though originating on the Continent, have long since found in England advocates and authors of no mean reputation, who have adopted a nomenclature rather more agreeable and useful to the English reader than one composed of words which he can neither understand or pronounce. Mr. Fitzherbert has evidently improved in his translation as he proceeded, but there are many passages the meaning of which is at best extremely obscure. Such defects must be remedied before the work can become popular in England. While the want of reference by the author to the writers of this country has not escaped remark, no effort has been made to supply the deficiency, nor is there a single criticism or addition of any value throughout the volume.

These remarks are not dictated by any inclination to find fault, or with the design of wounding the feelings of Mr. Fitzherbert, whose diligence and general accuracy we acknowledge, but to impress him and others with the conviction that a translation ought to be something more than a servile copy of the original, and that if reputation is sought for, it must be achieved by greater industry and exertion than what is necessary for accomplishing a mere interchange of words.

Art. II.—*An Introduction to Hospital Practice, in various Complaints; being a Clinical Report of Fever, Gout, Rheumatism, Cholera, Jaundice, Erysipelas, Insanity, &c., and Diseases of the Chest and Heart; with Remarks on their Pathology and Treatment.* By C. J. B. Aldis, m.a., m.b., and l.m., Inceptor Candidate of the Royal College of Physicians.—*London*, 1835. 8vo. pp. 125.

This is a collection of cases reported, with few exceptions, by Dr. Aldis, whilst a student at St. George's Hospital, in 1832-33. Remarks on morbid anatomy and treatment are appended to the cases, and they are introduced by a preface setting forth the merit and aims of clinical medicine. The plan of such a work is similar to that of the Clinique Médicale of M. Andral, who, as a young man, reported the cases of M. Lerminier. But the mode in which it is executed is widely different. It would have been a subject of congratulation to see the resources of a large hospital turned to account by an advanced student, who would have taken upon himself the laborious task of carefully reporting a large body of cases, and of minutely analysing them. By such a plan a young man might add to or increase the exactness of our knowledge of disease, making use of the practical experience of his elders, which might otherwise have been lost. But an undertaking of this character, to be useful at all, must be entered into with the diligent spirit of an Andral or Louis. The size of Dr. Aldis's book, and the numerous diseases displayed on the title-page, shew at once that this is not the plan which he has chosen. In a thin octavo of 125 pages, he has attempted to illustrate, by cases, the principal diseases which come under the care of the physician.

In the preface, Dr. Aldis tells us that "Clinical Medicine is progressing but slowly in this country, and numerous valuable facts which are constantly occurring, sink into oblivion," (p. ix.); and that "the management of diseases has been much neglected by writers on Clinical Medicine," &c. (p. xvi.) These charges are unfair, because unmerited. Every one conversant with our present standard medical works and transactions, is aware that clinical medicine is making rapid progress; that it never was cultivated so generally; and that the distinguishing characteristic of British medical writers, is the full and careful way in which they discuss the management of diseases. That many valuable facts sink into oblivion, is true; but we will give our readers an opportunity of judging whether Dr. Aldis has learned the secret of preserving them from obscurity. We have alluded to Dr. Aldis's censures on others, from a feeling that the pretensions of an author should be duly estimated in forming any judgment on his works. We shall select the cases on diseases of the lungs, as Dr. Aldis, in his preface, fully recognizes the utility of the stethoscope, which he states has introduced an accuracy in diagnosis that Cullen thought would never be possible. The first case (case 76) is called "Acute Bronchitis."

"Mary Ann D., æt. 28, servant, admitted April 27, 1832, complaining of very severe pain of the left side of the chest, shooting across to the other side, with very frequent cough, accompanied by expectoration, which is of a dark brick colour. Was seized five days previously with pain under the left breast, and cough, for which she was ordered to apply a blister twice.

"℞ Haust. Salin., Haust. Nitri, āā ʒvj.; Pulv. Ipec. c. gr. iij. 6tis horis.

"℞ Magn. Sulph., ʒvj.; Infus. Rosæ, ℥iss. statim. (D. parcissima.)

"28. Hirud. viij. lateri et postea Empl. Canth.
"℞ Pulv. Ipec. c., gr. v. h. n.
"Haust. Salin. c. Oxym. Scillæ ʒj., Magn. Sulph. ʒss. t. d.
"29. P.
"May 2. Pulse 100; tongue clean and moist. Fish. P.
"6. Convalescent. (D. ordinaria.) Haust. Sennæ cràs.
"8. Cured." (Page 101.)

The mode of attack, the probable cause, the state of the circulation and of the tongue, are entirely omitted; and the chest symptoms are not alluded to after the first day. No evidence is even given that bronchitis existed: the dark brick-coloured expectoration and pain would rather lead to the supposition of pneumonia.

The second case is one of chronic bronchitis; despatched in the same space, and equally unimportant. The third is of the same disease, in which no other pulmonary symptoms are alluded to than pain and expectoration. The fourth is called "Chronic Bronchitis, with diseased heart;" where the usual symptoms of chronic bronchitis are mentioned, but not a single symptom peculiar to disease of the heart. Asthma is illustrated by one case, occupying a dozen lines; and in the "Remarks" we learn that "Asthma merely means difficulty of breathing," (p. 105): as if asthma and dyspnœa were synonymous terms. One case also is reported under the head pulmonary consumption, to prove that the patient was once bled with relief. Two cases are reported of pneumonia: in the first, instead of the previous symptoms, it is carelessly stated that there was inflammation of the *chest* of four days' duration; and the only pectoral symptoms mentioned on admission are—"inspires with difficulty, but without pain:" no notice being taken of the expectoration until three days afterwards, when it is announced to be "loose."

It is unnecessary to continue an analysis of cases which will only afford further illustrations of careless and superficial reporting. In only six cases out of fifteen was the stethoscope employed; and the information reported is too vague to be useful, and often so inconclusive as to afford no evidence of the benefit of the instrument in the detection of disease. Thus, we are told there was on the same spot "a very dull sound, and crepitating râle," (p. 110); and in another case (p. 113) where, after death, the ventricles were found very much dilated, and the mitral valve ossified, no information was gained by auscultation. Percussion alone seems to have been employed in a case reported as pleurisy; and in a case of phthisis, the stethoscope is stated to have been placed beneath the acromial extremities of the clavicles.

In the account given of some of the cases of fever, the daily report is sometimes limited to a list of the medicines ordered, the symptoms being wholly left out. Dr. Aldis divides fever into three periods: the premonitory, the congestive, and the period of lesions. Of the congestive period he says, "Active treatment is always requisite during the second stage. If there be *determination of blood* to the *head or chest*, we must employ *general or local* bloodletting." A few lines further on, we are told "If there be *determination* to the *chest or abdomen*, general or local bloodletting may be necessary." The period of "lesions" is treated with equal dogmatism; as if, indeed, the author's object had been to illustrate the clinical imperfections denounced with so calm an air of superiority in his preface.

In a note at page 7, the author makes a remark on the importance of attending to the condition of the bladder in fever; and mentions a case of a lady to whom he was "called," in whom it had been overlooked: but Dr. Aldis mentions this as if it were his original suggestion.

The remarks appended to each set of cases, and which "are confined to the pathology and management of the diseases in question," are in character with the cases: superficial, and even puerile. No one will condemn this criticism as harsh, after reading the following specimen, which we copy because it is short, and completely illustrates Dr. Aldis's style and matter.

> "*Infantile Remittent Fever.*—Remarks. Infantile fever appears always to arise from a disordered state of the bowels. Sometimes the skin is extremely hot. The child may pick at the bed-clothes, but not as adults are accustomed to do, in the latter periods of fever. Children take hold of something prominent, like a knot in the counterpane. Saline draughts are of little use. Purgative medicines are most to be depended upon. It is necessary to be very careful about diet; respecting which, practitioners are very frequently foiled in private practice. The disease may terminate in marasmus, in which the mesenteric glands become enlarged, and the abdomen tumid. The child represents a little old person." (P. 34.)

It would not be easy to comprehend, in the same space, less matter of any value, or to express so many trivial details more feebly. The following is called the "Pathology" of pulmonary consumption:

> "The lungs do not collapse. There is more than the usual quantity of black pulmonary or carbonaceous matter. Vomicæ, lined with a membrane, are generally found at the apices of the lungs. Small granular bodies, termed miliary tubercles, are observed. The pleura may be perforated, and occasion pneumato-thorax. A portion of the lung may be condensed with tubercular infiltration. A cicatrix is sometimes met from the cohesion of the sides of the vomicæ. Earthy concretions, composed of the phosphate or carbonate of lime, (the former more frequently than the latter,) are occasionally discovered. Portions of the intestine may be ulcerated or perforated." (P. 106.)

This is not selected (as might be supposed,) because particularly faulty: it is a faithful sample of the whole. If we were to judge by this quotation of Dr. Aldis, we might suppose him unacquainted with the progress of tubercles, of the situation they successively occupy in the lungs, and of the tubercular nature of vomicæ; in short, he might be thought utterly unacquainted with the researches of Bayle, Laennec, and Louis, on this subject. Indeed, we feel at a loss to conjecture from what sources Dr. Aldis derived his medical knowledge, and particularly so when he discusses, as he often does in seeming earnest, opinions which he attributes to "pathologists and physicians."

There are numerous indications of a want of perception of the actual state of medicine, or of the kind of information which an Introduction to Hospital Practice should contain. Thus we are told, with the amusing air of gravity with which the author seems to consider himself as enunciating novelties, that "Quinine is considered an excellent antiperiodic medicine." (P. 37.) "Incisions" (as recommended by Mr. Hutchinson and Mr. Lawrence in erysipelas,) "are not employed on the face." (P. 34.) "Much might be said on the moral treatment of insanity; and whenever I have visited establishments where this was adopted, with medical advice, I have considered that every thing was done to secure the recovery of the curable, and to promote the comfort of the incurable." (P. 84.) "In the diagnosis of serous effusions into the chest, I have seen percussion alone fallacious." (P. 118.) Nothing surely can be less suited to the limited knowledge here betrayed than the tone adopted by the author.

The pathology of insanity is summarily disposed of. "It has generally been supposed that some peculiarity of the brain disposes to madness; but this peculiarity has never been clearly ascertained. *Morbid appearances are seldom discovered in the brain.*" A few more remarks are added, indicative, we regret to observe, of the fullest ignorance of the researches of Bayle, Calmeil, Foville, and Esquirol, in France, and of all the most accredited writers on insanity in our own country.

There is as little to commend in the composition and style of Dr. Aldis's Introduction to Hospital Practice, as in the matter. The sentences in general have so little connexion with each other, that they might constantly be transposed without altering the sense. They are usually bald and inelegant, frequently ambiguous, and occasionally ungrammatical. The following are either ungrammatical or unintelligible:

> "Such writers inculcate the necessity of observation, and defend us from obscure hypothesis. In them, observation and reason are united; the one is not alloyed by preconceived opinions, the other is modified by an attention to facts." (P. xi.)

And this passage, it is to be observed, is republished from the Medical Gazette; we presume with the deliberate approval of the author. Again:

> "Hypochondriasis, and the early symptoms of insanity, are unfortunately often ridiculed in families, not from deficiency of feeling on their part, but with a view to dissipate ennui, or any erroneous impression which might absorb the mind of the person affected; at the same time being unacquainted with the nature of the complaints."

It is an unpleasant part of our duty to notice a publication of this character. The very object of it is somewhat ænigmatical. Young physicians are, we know, often exhorted by dull advisers to "write a book;" and it would seem as if, following such injudicious exhortation, Dr. Aldis had emptied his hospital case-book. To entitle such a work, the imperfect note-book of a student, an Introduction to *Hospital* Practice, was certainly to give it a name to which it has no pretensions.

If Dr. Aldis's ambition had been better directed, a few more years of better observation in the noble institution which furnished him his cases, *might* have enabled him to publish a monograph, at least, which would have been accepted with gratitude by all medical readers. As it is, we can but trust that this Introduction to Hospital Practice will not reach the opposite side of the Channel. We can conceive no mortification greater than the exhibition of such a production in a French hospital as a specimen of English *clinique.* Nor is it fortunate, at the present juncture, that such a work is published by a physician to whose name the appended letters "M.A., M.B., and L.M.," and the title of "Inceptor Candidate of the Royal College of Physicians, London," would have made us hope for better things.

Art. III.—*Observations on the principal Medical Institutions and Practice of France, Italy, and Germany, with Notices of the Universities, and Cases from Hospital Practice. To which is added an Appendix, on Animal Magnetism and Homœopathy.* By Edwin Lee, Member of Roy. Coll. of Surgeons, formerly House Surgeon to St. George's Hospital. London, 1835. 8vo. pp. 216.

Although much of the information contained in this work is derived from publications easily procured in the foreign capitals, it is still such a work as must prove especially acceptable to the numerous English students resorting to the continental schools with very scanty preparation, and requiring every aid and every kind of guidance to enable them to avail themselves of the advantages there to be enjoyed, but sometimes very imperfectly known.

It is divided into three parts, devoted respectively to France, Italy, and Germany; and each part is introduced by general observations on the state of medicine in the country which forms its subject.

FRENCH MEDICAL INSTITUTIONS.

A clear and good account of the Parisian hospitals is given (in pages 2 and 3): we think, however, that it is not correctly stated that *all* the hospitals are attended by the *sœurs de la charité* as nurses: this, however, is of small importance: the question of their efficiency is more material. Few students see the wards of foreign hospitals except during the visit of the physicians or surgeons. In the absence of these, the general service of some of the French hospitals is, we know, performed in a very slovenly manner. We have been surprised to see the house-pupils performing all the minor operations, including venesection, unattended by any nurse, even in the women's wards; and in case a patient fainted, it was sometimes necessary to summon the aid of the man who was polishing the floor by rubbing a cloth over it with his foot. Not a sœur de charité was then to be seen. Neither did it appear to us that these sisters were remarkable for the gentleness of their manners. We made these observations with regret, and in opposition to all our previous impressions; and the conclusion to which we came was, that ordinary nurses, with all their defects, were more efficient hospital attendants, such offices "pour l'amour de Dieu" being little better than certain tonsorial services recorded among authentic facetiæ as performed for a like consideration.

The following is the prescribed course of study for those who take the diploma of Doctor in medicine or surgery in Paris:

> "Candidates for the diploma of Doctor in Medicine or Surgery, are required to have studied four years, during which period they have to take out an inscription every three months for attendance on the lecture and hospitals. Members of foreign colleges and universities may, however, present themselves for examination after two years' study in Paris. The scholar year begins on the 1st of November, and terminates on the 31st of August. The expense of the course of study required for taking a degree does not exceed a thousand francs (£40).
>
> "The following is the prescribed order of study:
>
> 1st half year. Anatomy, Physiology, Chemistry.
> 2d ditto. Medical Physics, Hygiène, Medical Natural History.
> 3d ditto. Anatomy, Physiology, Operative Surgery.

4th half year. Hygiène, Medical Pathology, Pharmacy.
5th ditto. Operative Surgery, Medical and Surgical Pathology.
6th ditto. Clinical Medicine, Clinical Surgery, Materia Medica.
7th ditto. Clinical Medicine, Clinical Surgery, Medical Pathology.
8th ditto. Medical Jurisprudence, Therapeutics, Obstetricity.

"The examinations for the diploma are five in number. The first takes place after the fourth inscription has been taken out, the second after the twelfth inscription: the three remaining examinations take place at the termination of the course of study.

"The subjects of the first examination are, natural history, physics, medical chemistry, pharmacology; 2d, anatomy and physiology; 3d, general pathology, medical and surgical pathology; 4th, medical jurisprudence, hygiène, materia medica, and therapeutics; 5th, clinical medicine and surgery, operative surgery, and obstetricity.

"Each examination lasts two hours, during which four candidates are questioned by three examiners.

"For the anatomical examination the candidate is required to make a preparation from a part of the body, which is indicated to him on the same morning, and to answer questions proposed to him relative to the preparation. Candidates have also to write and defend a thesis on some point relative to medicine or surgery. The clinical examinations take place in the clinical hospital at the bedside of patients. The examination fees amount to one hundred and fifty francs." (P. 4.)

The examinations, we may add, are public, and searching and efficient, but conducted with politeness.

In France the profession is divided into physicians, surgeons, and a lower rank of practitioners called officers of health (officiers de santé), the practice of the latter being nominally restricted to cases of minor importance: we say nominally, for the restriction is plainly impracticable. Midwifery is chiefly in the hands of women, and although they are regularly educated, we think that a suspicion expressed by Mr. Lee, that this circumstance has some connexion with the great frequency of uterine diseases in France, is not quite unfounded. There are lying-in charities in our own country in which, from a spurious delicacy, women only are employed as midwives, and we have seen much of the bad effects of this regulation: it is however to be considered, that our English midwives are uneducated persons. "Apothecaries," says Mr. Lee, "are not allowed to prescribe, their business being confined to the selling of drugs, and the preparation of prescriptions, *as with chemists and druggists in England*:" who, it may be added, do not so confine themselves at all, but practise very extensively.

Mr. Lee's account of the state of medical practice in France is succinct and interesting: it is evident that French physicians are becoming less governed by theory, and more guided by symptoms; or, in other words, that the practice among them is becoming more rational. Since the publication of the opinions of M. Broussais, bleeding has been more boldly resorted to; but the French seem negligent of following up bleeding by medicines calculated to amend the secretions, or even to remove vitiated accumulations; the consequence of which is that symptoms arise which appear to call for a repetition of the bleeding, and patients are sometimes bled and starved to death. We believe this even not to be very unfrequent in fever cases, and Mr. Lee gives a striking case of typhus in illustration of it (p. 58, see also p. 26). M. Louis and M. Andral should be mentioned, however, and are so, by Mr. Lee, as exceptions to this practice; both of them employ saline purgatives and other medicines in such cases. The more frequent and varied employment of baths in chronic diseases appears to be advantageous in French practice, and is, we think, beginning to be attended to in this country. Mr. Lee very properly thinks that "the practice of abstracting blood and applying irritants at a considerable distance from the seat of the disease, on the principle of revulsion, might be more frequently adopted with advantage in England, especially in affections connected with cerebral irritation or congestion." A small bleeding from the ancle, a few leeches applied to the thighs or arms, especially to the latter, blisters to the legs, sinapisms to the feet, &c., are often singularly useful; and it is certainly to be regretted that English practitioners are often so inclined to condemn measures of this kind as trifling; we mean, of course, only in chronic cases.

In the treatment of burns and scalds, stimulating applications are less used on the continent than in England: bleeding, opium, cataplasms, or emollient dressings, being the usual means employed. Whatever is the seat of the injury, the application of ice to the head for an hour or two is strongly recommended; its effect being to cause a cessation of pain, and to prevent cerebral symptoms.

Under the head of each Parisian hospital, a concise account is given of the practice of the medical officers, and this is illustrated by occasional cases. We can only find space for a few brief extracts from this interesting part of the work.

The hospital of La Pitié has the advantage of the services of some of the greatest men in Paris, MM. Louis and Andral being the physicians; and MM. Lisfranc and Blandin the surgeons. M. Lisfranc is well known to English students for the boldness and dexterity of his practice, especially in cases of diseased uterus.

> "M. Lisfranc has charge of two men's and a women's ward, most of the cases in the latter being marked as disease of the uterus; many of these patients are, however, young women affected with superficial erosion of the cervix uteri, and are cured by a few days' rest and appropriate treatment; the means resorted to in these cases, as well as in ulceration of this part, being chiefly confinement to the recumbent position, occasional venesection to three or four ounces, on the principle of revulsion, small doses of cicuta, and cauterization with a solution of mercury in nitric acid every six or eight days: when the ulceration is of a cancerous nature and too deep to be removed by cauterization, M. Lisfranc has recourse to excision of the cervix uteri; this part being exposed by the speculum, and firmly seized by *pinces de museaux*, is brought down beyond the orifice of the vagina and excised with a knife, as in cases of polypus. M. Lisfranc has not met with more than four or five cases of dangerous hæmorrhage after this operation, the symptoms which supervene being mostly of a nervous character and sometimes alarming, but mostly yield (yielding) to sedatives. Of ninety-nine cases in which he operated, eighty-four recovered: many of these patients became subsequently pregnant, and experienced no particular inconvenience in parturition." (P. 64.)

Mr. Lee adds, what few will doubt, that the operation has been performed in many cases in which it might have been avoided. M. Lisfranc treats *phlebitis* (supervening on venesection) by emollient fomentations and cataplasms on the inflamed part, with the repeated application of leeches between the point where the inflammation terminates and the heart; and he states, that since he adopted this practice, he has not lost a single patient from this disease; whereas when he employed other means, and applied leeches near the wound or over the inflamed vein, the majority of cases terminate unfavorably.

MM. Alibert and Biett, the physicians to the hospital of St. Louis, are also well known to English practitioners; the first by a splendid publication on diseases of the skin, the second by his enlightened practice in cutaneous, scrofulous, and malignant affections. The opinions of M. Biett on the use of baths in cutaneous diseases may be useful to the English reader.

> "Simple tepid baths are most beneficial in the dry scaly forms, though only as an accessory means; their efficacy is less marked in the pustular varieties: they are serviceable in vesicular affections when the inflammation begins to decrease, and may be used with advantage in impetiginous affections where incrustations have succeeded to the pustules.
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> "Alkaline baths are efficacious in the papular and dry scaly forms, and in the impetiginous and tubercular varities. An alkaline bath may be formed by dissolving in a simple bath from half a pound to a pound of carbonate of soda.
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> "Sulphur baths are most useful in the decline of vesicular affections: they are less useful than alkaline baths in the chronic stage of psora, and if used in the inflammatory stage the symptoms are aggravated. Sulphurous baths are composed of two ounces of diluted sulphuric acid and eight ounces of hydro-sulphuret of potass added to each bath.
>
> "Acid baths may be made by adding to each from four to eight ounces of hydrochloric acid; they are mostly applicable in dry scaly eruptions." (P. 69.)

In the account of the Hôpital des Enfans Malades (p. 75), we perceive that the mortality among the unfortunate children is stated to be one in four, which we believe to be rather under than over the truth. According to our own painful observation, this horrible mortality is to be ascribed, in a great measure, to the *expectant* system of medicine; to starvation, and gum-water, conjoined with the too free use of leeches.

M. Civiale, whose name is familiar to us in connexion with lithotrity, has a small ward in the Necker hospital, and the following is mentioned in the account of his practice.

> "Paralysis of the bladder, and vesical catarrh, in elderly people, are treated in the following manner:—a stream of cold water flows from a reservoir fixed near the ceiling, through an elastic gum tube, having stop-cocks, and terminating in a silver catheter formed into a double tube by a central partition. The patient being in the recumbent position and the catheter introduced, the water passes into the bladder by one side and out by the other. A continued stream of water through the bladder is thus kept up for about ten minutes, and repeated every second or third day: the quantity of water passing into the bladder may be regulated by the stop-cock, so as to prevent undue distention. The beneficial effects of the method are attributed to the clearing away of the accumulated mucus, and to the tonic action of the cold water upon the bladder." (P. 79.)

ITALIAN MEDICAL INSTITUTIONS.

Mr. Lee's observations under this head are somewhat brief. The different states and cities of Italy, as remarked in our notice of the Foreign Reviews and Journals, in our first Number, are like so many different countries; and we accordingly find that the general state of medical, as of all other knowledge, is unequal. At Florence and Rome the Broussaian doctrine prevails; but it is in less repute at Milan and at Naples. The Rasorian doctrine, and the practice of administering large doses of antimony instead of bleeding, are on the decline. Mr. Lee tells us that not only lithotrity, but auscultation and percussion meet with no advocates among the Italians, who seem averse to every innovation. In some parts of Italy, surgeons are only permitted to apply local remedies, and perform operations, physicians being called in to prescribe for the constitution, even in surgical cases. Perhaps it is the consequence of this division of labour, that the surgeons generally manage their cases without any medicine, by which plan many patients sink under constitutional irritation, or internal inflammations. These circumstances do not prepare us to find much that is interesting, under the head of the different hospitals. In some of them, indeed, Mr. Lee seems to have made few personal observations: and neither Foreign nor English readers can be much satisfied with such a remark, applied to the principal hospital at Geneva, as, "I did not see much of the practice, but believe it to be very inferior."

Several interesting statements are given, relative to the management of the insane in the different institutions. In some of them, as in the Hospital of Incurables at Geneva, it is still exceedingly defective. About 250 patients are confined to ill-ventilated wards, which they never leave until they die, or are dismissed. There is no classification of the cases, and except occasional depletion, curative measures seem little attended to. Mr. Lee was not allowed to see the women's wards; the probable condition of which, therefore, is not better than when described by M. Brière de Beaumont, at which time the women were shut up in dirty and ill-lighted wards, one of which was large, cold, and damp; and many of the patients were chained by the hands and feet, so that "their howlings, their accessions of fury, and the clanking of their chains, gave to this horrible place the appearance of the infernal regions." From the end of 1828 to the end of 1829,

	Men.	Women.
The admissions were . .	90	84
There were dismissed .	40	32
Died . . .	32	32

The proportion of deaths to the number of inmates (about 250,) is, Mr. Lee remarks, enormous. (P. 93.) The treatment of this unfortunate class of patients can hardly be said to be in any degree better in the Hospital for the Insane, at Rome. (P. 123.) At Bologna it is much better; (P. 100,) and also at the Spedale di Bonifacio, at Florence, (P. 105,) where each patient has a separate cell, and is allowed to walk about in the day time: the new patients are kept in separate rooms for a few days, that the peculiarities of their insanity may be observed; and the greatest attention is paid to cleanliness throughout the establishment. Furious patients are consigned to darkened rooms, with well-padded walls; and the darkness is said to have the effect of making a great number of them tractable. Many of the patients are employed in mechanical operations, gardening, knitting, spinning, &c.; and in this hospital the ancient custom of bleeding all the patients in summer, is discontinued. The superiority of the establishment for the insane at Aversa, near Naples, seems to have been exaggerated; but some of the arrangements, and the general order and regularity of the institution, are excellent.

The school of Bologna boasts of having produced Valsalva, Malpighi, and Galvani: the population of the place is, even now, only 75,000; so that we may not unreasonably expect similar advantages from some of our own provincial schools, for the production of which it is evident that the air of a large capital is not indispensable. The order of study, and the mode of examination, are worthy of quotation.

> "Medical students are obliged to attend the classes during four years, in the following order:—first year, Natural History, Botany, Chemistry, Anatomy; second year, Anatomy, Physiology, Comparative Anatomy, Institutes of Surgery; third year, Pathology, Clinical Medicine, Materia Medica, Chemistry; fourth year, Pathology, Clinical Medicine, Medical Jurisprudence, and Midwifery. During the last year of study, a certain number of patients are placed under the care of each pupil, who, previous to his examination, has to give an account of the cases, and of the treatment he has adopted. Surgical students attend, during the first and second years, the same courses of lectures as the medical pupils; third year, Institutes of Surgery, Clinical Surgery, Anatomy, and Dissections; fourth year, Medical Jurisprudence, Midwifery, Dissections, Clinical Surgery, and the performance of operations on patients, under the guidance of the professor. At the termination of the first year, students take the degree of bachelor; at the end of the second year, of licentiate; and at the end of the fourth year, of doctor of medicine and surgery.
>
> "The mode of examination of candidates is as follows:—five professors of the different branches of education submit each to the candidate twenty different subjects, taken from his own course of instruction; the pupil draws one of these by lot, and is examined on that subject. Thus the candidate is examined on five subjects connected with medicine. When the examination is finished, each of the professors gives his vote separately, as to the fitness of the candidates; those who are considered not sufficiently qualified, have to study another year." (P. 102.)

GERMAN MEDICAL INSTITUTIONS.

As we are enabled to refer to the Fourth Part of this Journal, for authentic details respecting the state of medicine and medical institutions in Germany, we shall pass over many interesting observations in this part of Mr. Lee's work. The general system of medical practice approaches much more nearly to that of England than in France and Italy; bleeding is less frequently had recourse to, but active internal medicines are employed, as well as enemata and baths, whilst tisanes, and infusions of herbs, are now but little prescribed.

When speaking of the hospital at Stuttgard, Mr. Lee mentions that sciatica is treated, in that institution, not by blisters applied over the trunk of the sciatic nerve, but below the knee, so as to encircle the leg; a method which is said to produce a speedy cure in most cases. In the general hospital at Prague, rheumatism is treated by the administration of large quantities of warm water: both acute and chronic cases appear to be treated in this manner, and it is said with success. In a work by Dr. Brandis, published at Berlin in 1833, that physician recommends cold bathing, and even cold affusions, in rheumatism: a curious instance of the uncertain state of physic!

One of the best establishments on the Continent, for the reception of insane patients, is that of Sonnenstein, about four leagues from Dresden, of which a very good account is given by Mr. Lee, (p. 151.) It consists of an ancient castle, seated on a hill, and having extensive grounds. The number of patients, at the time of Mr. Lee's visit, was 200, of whom 120 were men. The house is extremely clean, and contains workshops, a saloon of amusement, with books, a piano, draught-boards, and a billiard room. In fine weather the men are employed out of doors, and the women amuse themselves with a flower-garden. The furious patients are not, as in the Italian institutions, confined to dark rooms, "but are allowed to walk about with the rest, their hands being confined. They also wear a cloak, in order that the apparatus for confining the hands may not be observed by others. This method is found to have greater effect in tranquillizing them, than if isolated, and forcibly confined to bed." (P. 153.)

The cures at Sonnenstein are reported to be one in three among women, and one in four among the men. Paralysis is observed less frequently to supervene on insanity than in France.

As a melancholy contrast to Sonnenstein, we may take the insane wards in the Kranken-Haus, at Berlin; where 150 patients are kept entirely in the house, having no ground for exercise; and where the general treatment appears to be quite neglected. Yet the other departments of this hospital are well regulated. The treatment in the syphilitic wards consists, chiefly, in rigid abstinence; bread, soup, and milk only being allowed, and even of these only a quarter of the ordinary allowance of other patients. Mercury is never employed: the usual medicines given are the neutral salts, especially the sulphate of magnesia, and sarsaparilla. The applications to sores are emollient, slightly stimulating, or caustic; and the usual duration of the treatment is three or four weeks. Secondary symptoms seldom occur, and are not of a serious nature.

Professor Langenbeck, " one of the most distinguished anatomists and surgeons of Germany," resides at Gottingen, the university of which little town was founded in 1734, by George the Second. At this famous university, in a town containing only about 10,000 inhabitants, there are no fewer than 1,500 students, and *eighty* professors. Until lately, the celebrated Blumenbach, who is still living, was professor of physiology; and his rich collection of crania, and fossil remains, including precious specimens from the Hartz mountains, give value to the museum. Gottingen has also the great advantage of possessing a library of great extent, admirably arranged; a celebrated observatory; and one of the best botanical gardens in Germany. When will any of our moderate sized English country-towns possess such advantages?

Mr. Lee has appended to his work some account of animal magnetism and homœopathy, on which we do not think it necessary, on the present occasion, to make any comments; our principal object in this notice having been to shew the student the kind of information contained in Mr. Lee's book. Altogether, it is certainly a publication which we would recommend every student about to proceed to the Continent to put into his portmanteau. There is still, we think, a book wanting for students, containing a well arranged view of the advantages peculiar to each of the continental schools; the time of the year when the lectures are given; the best mode of living to be adopted in the several towns, and the expenses likely to be incurred; with particular references to the character of the different anatomical collections, or parts of such collections. Even a medical map would be a useful accompaniment to such a work. A plan should also be given for six months', or a year's, or two years' travel and medical study on the Continent. Such a book, however, could not be written by a mere tourist, or without devoting a longer period to observation of the state of the different continental schools than we could expect any single observer to have time and opportunities for. But materials for it might be contributed by different observers, each taking for the subject of his remarks, the country or the school with which he possessed the means of becoming most intimately acquainted. We may add, that the Fourth department of our Journal will always be open to contributions conveying this very useful kind of intelligence.

Even more generally useful, perhaps, to English students, would be a work containing clear directions how to pass the months of a single winter profitably, in the Parisian schools. It often happens that our young countrymen, on arriving in Paris, being imperfectly acquainted with the French language, and unprovided with useful introductions, lose some time in making preliminary arrangements, and make them injudiciously. The distance of the hospitals from each other, or their relative position; their respective merits; the choice of a residence during attendance upon some of them part of the time, and then upon others; are all points of great consequence to a student whose time and whose resources happen to be limited. In every student's life, too, however busy, there are unemployed hours, and in no city may these be more advantageously passed than in Paris, either in the public resorts of men of science, or in improving private society, to which respectability of character, and a love of knowledge, furnish there a sufficient introduction. Pursuing the same idea, we should be glad to see directions for passing nine months in Germany, and three months in Italy. Above all things, the English student should prepare himself, by a competent knowledge of the language of the country he means to visit, without which he cannot but be exposed to continual mortifications, and serious disappointment.

ART. IV.—*Commentatio Medico-Practica de Morbis Intestini Cæci, et de dignitate hujus Visceris Pathologica in dijudicanda Passione Colica et Iliaca.* Auctore LUD. HERM. UNGER, Med. et Chir. Doct. &c.—*Lipsiæ*, 1828. 8vo. pp. 69.

On Phlegmonous Tumours in the Right Iliac Region. By J. M. FERRALL, Esq., Member of the Royal College of Surgeons in Ireland, Surgeon to the Maison de Santé and the Institution for the Treatment of Scrofulous Complaints.—*Edinburgh*, 1831. 8vo. pp. 24.

Observations upon a peculiar Disease of the Cæcum, or Caput Coli; contained in a Letter to DR. CRAMPTON, *from* FRANCIS W. SMITH, M.D., one of the Physicians in Ordinary to his Excellency the Lord Lieutenant; Fellow of the College of Physicians (in Ireland), &c. &c. &c.—Dublin, 1835. 12mo. pp. 47.

WE have no desire to conceal the fact that it was the appearance on our table, among other new publications, of the work of which the title stands last in the above list, which made us refer to our shelves for the two which precede it, and which, it will be observed, are of considerably older date; and, as it was the nature of the contents of the more recent work which induced us to recur to the others, we shall, in the following remarks, give it our chief attention, and refer to them only for incidental illustrations of the subjects we may have to consider.

In noticing the little work of Dr. Smith, it is impossible to be honest without finding fault; and if in so doing we should offend the author, he may rest assured that it is a sense of duty only and the consciousness of the high responsibility of our office, and no pleasure in finding fault, that guides our pen. And, indeed, if ever any man was bound to put up patiently with the critic's award, whatever that might be, surely Dr. Francis Smith is the man, for nothing can be more evident than that his appearance as an author—at least as the author of a separate work—is perfectly uncalled for. Had, indeed, the scanty series of observations contained in this diminutive volume appeared as a communication to a medical journal, or had they obtained a place in the Transactions of the respectable Association* before the members of which they appear to have been originally read, they might have escaped without censure, if they had obtained no commendation. But when they come forth to the public in the shape they now possess, as a distinct volume, brief indeed, yet formally divided into chapters (actually twelve chapters in forty pages!) and with no slight pretensions on the part of the author to originality of views and improvements in practice, it is not possible to overlook them, more especially as they relate to a subject of high pathological interest and practical importance.

It is now many years since our attention was first called to the particular disease noticed in the present pamphlet, by the occurrence of several cases in our own practice; and while we were hesitating whether we should make them the subject of a brief communication to some of our journals, we were fortunately anticipated, by the notice of the same affection by some of the most distinguished French pathologists, who gave to the profession a much fuller account of it than our limited experience could have supplied; and, as they took the same view of it which had occurred to ourselves, we had nothing to regret, but every ground for satisfaction, that the subject had fallen into other hands.†

Nearly about the same time the little work, the first on our list, appeared at Leipsig, although we were not aware of its existence till some time afterwards. In it the author gives a complete but brief view of all the principal affections to which the cæcum is liable, and notices in a particular manner its local inflammatory states, less fully indeed than the French authors, but infinitely more so than Dr. Francis Smith.

Some years after this, the very excellent paper on the same subject, the second on our list, was published by Mr. Ferrall, of Dublin, first in the Edinburgh Journal for July 1831; afterwards separately. The substance of this we are told by its author, "was prepared before the Memoir from M. Dupuytren's *Clinique* appeared," and some of the cases in which bear date as far back as the year 1823. We are thus particular in referring to dates, because Dr. Smith, in the pamphlet before us, the whole of which is devoted to the consideration of the early stages of the same identical affection, has thought proper to represent it as having "met with the most extraordinary neglect on the part of medical authors," (p. 8,) and of having been "most unaccountably doomed to comparative obscurity." (Introd. p. vi.) If one were, indeed, to judge of the acquaintance of the members of the profession, generally, with this affection, from that which seems to be possessed by this author, we should certainly regard it as most limited, seeing that he does not once refer to the French authorities, and never alludes to Mr. Ferrall's Memoir, until towards the close of his own essay, when he refers to it for a description of some "cases of the disease in a more aggravated and lethal form." (P. 37.) It is singular, also, that, with the account of the disease by the French authors, to which we have referred as existing in the pages of an English journal in every body's hands, he should have added, in reference to this Memoir of Mr. Ferrall, "there is not, I believe, in our language, any other printed account of the disease."(P. 37.) And it is, certainly, equally singular, that acquainted as he here acknowledges himself to be with Mr. Ferrall's paper, he should have preserved an utter silence respecting it while discussing the pathology, diagnosis, and treatment of the complaint, all of which points Mr. Ferrall discusses, and should have only incidentally noticed it when about to close his work, by the detail of his own few trifling cases. Dr. Smith may, possibly, shelter himself under the plea, that his observations apply, and were only intended to apply, to the incipient or chronic form of the disease described by the French writers and Mr. Ferrall; but, admitting that such is the object of his Essay, we hold him not the less bound to have made himself acquainted with their writings and opinions, before he put himself forward as a teacher of others. And even this excuse will not serve in the case of Dr. Unger, since his remarks apply both to the chronic and acute form of the disease, and indeed do not include the extreme forms of it described by Dupuytren and Mr. Ferrall. It is hardly a satisfactory excuse for Dr. F. Smith's ignorance of Dr. Unger's book, that it might be known only to few persons in this country. He might have become acquainted with it without any difficulty, as it was announced in all the foreign catalogues for some years, and as it was written in a language with which all physicians are presumed to be acquainted. At least, we think it would be prudent in writers to take some pains to acquire a knowledge of the literary history of the subjects on which they write, before they publish their writings; more particularly if they make any pretensions to novelty.

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* Association of Physicians in Dublin.

† See a Memoir on Phlegmonous Tumours of the right iliac fossa (from the Clinical Lectures of Dupuytren), by P. Méniere, M.D., Archiv. Gén. t. xvii., republished in Dr. Johnson's Med. Chir. Rev. Nov. 1828.

After all that has been said, and although we may have yet further fault to find with Dr. F. Smith on other grounds, we believe that his little pamphlet will be of use, by calling anew the attention of the younger members of the profession to this interesting form of abdominal disease, and by soliciting the notice of all to its earlier stages. Regarded as a chapter in the more important memoirs of MM. Dupuytren, Unger, Husson, Dance, Méniere, and Ferrall, it is not without its value; and had the author been content with claiming for his observations the meed to which they are entitled, and extended a common measure of justice to his fellow-labourers in the same field of enquiry, he would have received from us nothing but commendation.

For the benefit of such of our readers as may not be acquainted with the memoirs referred to, it may be useful here to state, that the affection under consideration, and which we think very improperly designated by M. Dupuytren and Mr. Ferrall by the name of "Phlegmonous Tumour," is a local disease of the cæcum, and although, perhaps, not in all cases essentially and primarily inflammatory, yet hardly ever attracting the attention of the physician, or even of the patient, until exhibiting evident signs of phlogosis of that bowel, or, still more commonly, of that and the tissues exterior to it and immediately surrounding it. "Herbam crevisse apparet," says Dr. Unger, "non apparet crescere." (P. 38.) In certain cases, (and Mr. Ferrall's first case appears to have been of this kind,) the local affection seems to consist simply of a painful over-distension of the bowel from fæcal accumulation, arising from some of the various causes of disease to which this portion of the intestinal canal is, from its peculiar functions, liable. Dr. Unger considers fæcal accumulation, from neglect in yielding to the natural stimulus to empty the bowels, as the most common cause. (P. 42.) In general, however, the disease is of an inflammatory character from the beginning, consisting essentially of a slight chronic inflammation of the mucous membrane of the *caput cæcum*, producing a stoppage of its peristaltic action, and consequently an accumulation of its contents, with perceptible tumour of the part, and, eventually, the extension of the inflammation to the exterior of the bowel, with all the ordinary accompaniments of a local and superficial phlegmonous inflammation superadded to the internal intestinal disease. The cause of this peculiarity of the cæcal inflammation extending to the adjoining tissues is found in the fixedness of this bowel, and in the peculiar functions it has to perform, and the consequent disarrangements to which it is liable. This inflammatory affection of the cæcum may be divided into three stages or degrees, first, when the inflammation is slight, and almost or altogether confined to the coats of the intestine; secondly, when it involves the surrounding parts, and presents the characters of a local phlegmon, seated more or less deeply; and thirdly, when suppuration has supervened in the cellular tissue, and the escape of the pus by the surface, or by perforation of the bowel, has produced a disease of a complex character and of a very dangerous nature. Of these three forms of the disease, the first and second are, fortunately, by much the most common; and the second is probably that which is most commonly met with in practice, owing to the preliminary stage being often overlooked, or not sufficiently attended to, to be the subject of the physician's or surgeon's care. The last is extremely rare.

The only part of Dr. Smith's account of the disease that possesses the least interest, is his description of the early stage; but this is so overloaded with minutiæ which have no essential connexion with the particular pathological state in question, that no distinct picture is left on the reader's mind. Positive and negative symptoms are jumbled together in the strangest confusion; many are noticed as present which have nothing to do with the disease, and many are recorded as absent which the disease can never have any thing to do with. We therefore prefer to extract a brief account of it from the work of Dr. Unger.

"The invasion of this affection is very insidious, as its early progress is accompanied by little inconvenience, hardly calls the attention of the patient to it, or, at least, is not deemed deserving of medical aid. Step by step however it advances, silently undermines the health, and finally gives rise to imminent danger. No single symptom is of sufficient weight or constancy to indicate the presence of this affection: all must be viewed in connexion, and carefully, in order to establish the diagnosis. In the more simple cases the following are the ordinary marks of the disease: the patient does not lose his strength, but abates somewhat in his wonted activity, and he looks ill. Pains in the iliac and colic regions, somewhat of a periodical character, go and come; sometimes they extend over the whole abdomen, and are felt most during the period of digestion, when the peristaltic action is at its height. There are few signs of any gastric affection, except a reddish tongue and some thirst; and the appetite is not quite gone. The patient becomes low spirited, seeks for ease on the couch, where he prefers to lie on the right side with the thighs drawn up; he soon wearies, gets up discontented, but shortly lies down again. The pulse is small. The alvine excretions are unhealthy; the bowels are at one time confined, at another relaxed, the stools being neither large nor figured, but loose and mucous, and passed without producing the expected alleviation of the previous pains. If at this stage we examine the abdomen, we find it in general of the natural form, soft and not tender as in the case of ordinary inflammation, but if we press forcibly in the right iliac region so as to depress the integuments to a considerable depth, we produce a feeling of pain." (P. 41.)

The following is an extract from Dr. Smith's work, descriptive of the same stage of the disease, purged, however, (a liberty which we hope the author will excuse,) from not a little of the extraneous matter and repetitions by which the original is disfigured. This extract will, we hope, satisfy our readers that the English author has less cause than he imagines for pluming himself on his originality.

"The first symptoms complained of by the patient are, dull pain of the right side, which can be increased by pressure; an inability, or, more properly speaking, a disinclination to go to sleep on the left side; the bowels present a great degree of irregularity in their action, the stools being for the most part dry, scanty, and unfrequent, and not unusually clayey in colour, and imperfect in consistency; slight diarrhœa, generally appearing from time to time at intervals of uncertain duration; the urine is in most cases high-coloured, and abounding in animal salts; occasionally, however, it is natural in its appearance and qualities. The appetite, generally, is undisturbed; the tongue sometimes slightly furred, and of a whitish or yellowish colour in the mornings, but is as frequently of a healthy colour and appearance; the pulse is slower and more languid than in health; the countenance begins to assume an unhealthy, yellowish appearance; the individual loses flesh. As the disease advances the pain becomes more distressing, and the region in which it makes itself felt more extensive; from having at first been felt as a dull, undefined pain in the right side, the patient now feels it in the whole region lying between the cartilages of the false ribs on the right side, and the crest and spine of the ilium. The stomach still continues to perform its functions, but nutrition does not take place in a sufficient degree to repair the waste of the body; the liver begins to become irregular in its action; flatulency of the bowels becomes a distressing symptom. The skin now acquires a preternatural dryness, and the patient altogether acquires a sunk and marasmatic appearance. If at this period we subject the patient to a suitable examination, we shall find that, if we make pressure downwards and to the right side, we shall very considerably increase the sufferings of the patient; and, if we commence our pressure from a point midway between the navel and the superior anterior spinous process of the ilium, and carry it in a direction downwards, outwards, and to the right side, we shall soon arrive at a point where the pain reaches its maximum. The pain is frequently described as shooting and radiating in all directions from under the finger, but principally in an upward direction. I have in a few instances known the pain to extend, under those circumstances, even up to the point of the shoulder; we shall, at the same time, in general be able to discover a tumour of a pretty considerable size, hard consistency, and irregular figure, occupying and swelling upwards from the iliac fossa." (P. 12.)

The only defective point in the description of Dr. Unger, is his omission of the *tumour* as well as tenderness in the right iliac region. Indeed this author, although possessing a far superior knowledge of the disease to Dr. Smith, appears still to have had only a very imperfect acquaintance with it, especially in its latter stages. For an account of these we must, therefore, refer our readers to the excellent paper of Mr. Ferrall, in the Edinburgh Journal, and that of M. Méniere in the Medico-Chirurgical Journal; and we must add, that it is to these also, and not the pamphlet of Dr. Smith, that they must look for rational views of pathology and grounds of diagnosis, although the last-named writer has bestowed a whole chapter on the latter point.

Too much, however, even as to physical extent of matter, must not be supposed to be implied, in the case of Dr. Smith's book, by the title of *chapter*, as the reader will be ready to allow on perusing the one (CHAP. IV.) which we shall here transcribe *entire*; partly on this account, and partly because we do not quite agree with Dr. Smith as to the statements contained even in it.

> "CHAP. IV. To the disease, as I have described it, I should be disposed to assign the name of *cæconitis*; and as such a term would be in strict accordance with the rules which guided those who have bestowed names on the morbid affections of the other portions of the intestinal canal, I do not foresee any objection to its being adopted." P. 25.

Now we rather think that Dr. Smith may find persons disposed to object to this term, and even to question whether it is "in strict accordance with the rules" to which he refers. We, for our parts at least, are altogether ignorant of there being such a word as *cæcon*; but, even if it were justifiable, for the sake of euphony, to read *cæconitis* in place of *cæcumitis* (and we really see no great difference between them,) Dr. Smith ought to know that the rules which should guide the formation of such terms—broken, occasionally, we admit—forbid the addition of the Greek particle *itis* to a strictly *Latin* word like *cæcum*.

The treatment of this complaint, in the early stage of it under consideration, is sufficiently obvious. The principal indications are to subdue the inflammation by the local application of leeches and fomentations, and to remove the accumulation of fæces by the most effectual yet mildest means. After the removal of the pain, Dr. Smith's favourite practice is to give a well-known pill, consisting of a grain and half of aloes, rubbed up with gum mastick, ipecacuan and soda, twice a day, combined with a mild bitter infusion; and the practice is very judicious, so long as there is no inflammatory state present, and the pills have the effect of keeping up a moderate and steady action on the large intestine.

> "In general (says Dr. S.) a few weeks of well directed care will free the individual from the disease; and it will then be only requisite, that by an occasional dose of the pills he should guard against allowing the cæcum to again become over-distended. Occasionally, however, [and we ought to apprize the reader that the last sentence terminated CHAP. VI. while this begins CHAP. VII.] we meet with cases which do not so easily yield, even to the most admirably directed treatment.—In these cases, *I am in the habit of making use of an invention of my own*, which has the effect of keeping up the evacuations from the bowels, and stimulating powerfully, and in a healthy and tonic manner, all the abdominal viscera, including, of course [*of course*], the cæcum and colon." P. 29.

The invention is thus announced:—

> "I am in the habit of ordering the patient, on rising in the morning from bed, to have a *douche of cold water* of about half an inch in diameter, and of a very moderate

force, (never exceeding a pound or a pound and a half at the commencement,) to be made to play for a period, varying from a few seconds to a couple of minutes, upon the abdomen, and to let the stream be principally directed towards the seat of the disease. Even common dashing of the abdomen from a large sponge, or a stream directed from a moderate height, by means of a watering-pot, divested of its rose, may be made to answer; but a douche from a leathern *hydraulic* tube, having a height of water of three or four feet to supply the force, and a diameter of half an inch, is the most certain and complete manner in which it can be applied.—Now the effects of this affusion are very remarkable; the bowels are stimulated to action in a very decided and very satisfactory manner.—If made use of as the patient rises from bed, by the time the toilette and breakfast have been gone through, the bowels will be ready to act with certainty and with success, and the stools will be both copious and of a satisfactory consistency." P. 31.

How far this practice is altogether an invention of Dr. Smith's,—how far it is likely to be admissible in many cases,—what proportion of patients are likely to submit to it,—and whether the practical consequences are fairly and logically deduced from the premises, we have not time to enquire; as we have already bestowed more space on this pamphlet than we can well spare. We may, however, just suggest a doubt whether two subsequent statements made by the author, viz. that he "*always associates* with its use the soothing influence of the warm bath," (P. 32,) and that "after some time, it will *in most cases be found requisite* to return to the use of the aloetic medicines," (P. 33,) may not be supposed by some to weaken the force, if not the legitimacy, of his deductions.

In his CHAP. XII. the author says that "some general statistical observations have suggested themselves to his mind, but that he prefers passing that part of the subject over in silence; only remarking that individuals of all ages between twenty and sixty are alike liable to the disease." "That it occasionally proves fatal *is quite certain;* the daughter of an eminent legal character in this city [Dublin], as also the child of a French nobleman, both, to my knowledge, succumbed under incurable cæconitis." (P. 46.) When it is observed that several of the very cases referred to by Dr. Smith himself, in Mr. Ferrall's paper, were *fatal* cases, the *possibility* or certainty of such an event seemed hardly to require to be established by the cases of the children of the eminent and noble personages 'within his own knowledge.'

In addition to what may be called the technical or medical blemishes in Dr. Smith's work, we cannot lay down our pen without entering our protest against his avowed design of writing it for *the public,* as well as the members of the profession. "I have been at length induced (he says) to give to the public, *medical and otherwise,* the fruits of my experience." "Pathological details (he says in another place) I have as much as possible avoided, as they would be wholly unintelligible to the popular reader." (P. 46.) Now, we ask, what have the non-professional public to do with such a subject as that which forms the whole of Dr. Smith's work? One more strictly medical and professional, it would not be easy to point out; and when we see these avowed appeals to those who cannot profit by its details, coupled with the very unusual and minute mode of designating the author's locality, in the Introduction, we cannot but doubt whether, in committing his observations to the press, he was not partly influenced by motives which, in the ancient days of physic at least, would have been deemed hardly becoming in a member of its highest order.

Art. V.—*Observations on the Climate, Soil, and Productions of British Guiana, &c.; with Remarks on the Diseases, their Treatment and Prevention, founded on a long experience within the Tropics.* By John Hancock, m.d.—*London*, 1835, pp. 89.

There is only a very small portion of this small work which comes properly within our domain, and we are bound in justice to say that we are pleased that it is no greater. We have rarely met with a piece of medical writing more defective both in a literary and scientific point of view, than the ten pages devoted to an account of the "climate and diseases of the country;" and our regret at such a lamentable failure is enhanced by the consideration of how much might have been done by a scientific and diligent observer, with the opportunities possessed by the author. He informs us, in his preface, that "he sojourned from the year 1804 to 1828 inclusive, in South America, and chiefly in British Guiana, where he followed his professional pursuits; and with the view of acquiring some knowledge of the botany of a country most rich in medical plants, and of some peculiar practices followed with great success by the inland tribes, he frequently visited the Interior," &c. Were it not that we find appended to this pamphlet the announcement of "A Treatise on Inflammation and Fever, founded on the more successful methods pursued by certain aboriginal natives of North and South America, in the Cure of Diseases," in which it is to be presumed much of his acquired information is to be produced, we should be disposed to think, judging from the present work, that he had journeyed to little purpose, as far as medicine is concerned. He however makes some statements of facts which are deserving of notice, and which cannot be affected by illogical explanations, or obsolete pathology. He says "Tubercular consumption is unknown on the coast, and extremely rare in the mountain regions, though not unfrequent on the *Llanos*. The writer can say that he has never met with an instance of genuine tubercular phthisis on the coast of Guiana, nor a single case of calculus or stone in the bladder generated there." Dr. Hancock would seem in part to account for this exemption from such diseases, by the remarkable equability of the climate. He says "there is probably no country on the globe where the temperature is more uniform than in Guiana." He maintains that the climate is not only prophylactic, but curative of phthisis; and it is no wonder, with such opinions, that he recommends European physicians to send their consumptive patients there, in lieu of Montpelier, Naples, Rome, or Madeira.

This is certainly a matter well deserving our gravest consideration; and here again we cannot but regret that the author should have contented himself with the simple announcement of so momentous a proposition, without adducing one single fact in its support, and without supplying us with one meteorological observation illustrative of a climate capable of working such wonders. To be sure he tells us that he has "long been of opinion that the exemption from phthisis on the coast of Guiana is partly owing to the gaseous emanations from the soil, but that the main cause, as he believes, is referable to the free perspiration experienced here, together with the almost total absence of those chilling blasts which are common in other tropical regions." He gives us no insight into the nature of those "gaseous exhalations," nor does he explain why Guiana, of all the vast regions of the earth situated within the tropics, should exclusively possess this happy immunity from "chilling blasts;" nevertheless, when we recollect that, according to the statement of Dr. Clark, phthisis is most prevalent among that race (the African) of men who must constitute a large proportion of the population of Guiana, we cannot but regard the fact, announced by Dr. Hancock, of the absence, or comparative absence, of this disease from that country, as one of singular importance, and meriting the strictest examination. It is impossible for a man to be mistaken as to the existence or non-existence of such a disease as tuberculous phthisis: were the fact one of such obscurity as many pathological processes, the following statement of our author, with which we shall conclude this notice, might make us hesitate before we admitted his testimony as conclusive.

> "When matter from extensive ulceration and abscess (as in the lungs) has not a free discharge, it becomes absorbed into the mass of circulating fluids, and produces an irritative fever, termed hectic. By repose, and warmth of the bed at night, the patient sweats, by which the fever abates. The sweating is an effort of nature to relieve the system of the offending humour; which is evident from this that *if we collect the clammy transudation, we find it to possess most of the properties of pus.*" P. 37.

We should like to know by what chemical or other means it can be proved, and by whom it has been proved, that the perspirations of hectic patients are purulent.

Art. VI.—*Account of the Discovery, by Purkinje and Valentin, of Ciliary Motions in Reptiles and Warm-blooded Animals. With Remarks and Additional Experiments.* By William Sharpey, m.d. f.r.s. &c. *Edinburgh:* 1835. 8vo. pp. 16.

The experimental physiologist, in pursuing his enquiries into the wonderful phænomena of generation, is driven to the confession that Nature seldom permits man fully to comprehend her mysteries. Among other doubtful and disputed points, are the means by which the impregnated ovulum is transmitted through the Fallopian tubes. It has been assumed, but never proved, that these tubes impel forwards to the uterus the product of conception by a vermicular or a peristaltic action, similar to that of the intestines. The discovery of Purkinje and Valentin, supported as it is by the experiments of Dr. Sharpey, appears to offer a satisfactory explanation of the manner in which nature effects the transit of the ovulum to the uterus. We confine ourselves to a brief abstract of Dr. Sharpey's "Account."

A remarkable provision exists in many animals belonging to the inferior tribes, by which fluids are moved along the surface of different organs. The gills of the mussel afford a good example of this motion. If a portion of them be cut off and examined under water, the water will be perceived moving in a current along the surface in a constant and determinate direction; and when the piece of gill is inspected with the microscope, its surface will be found covered with minute hair-like organs, or cilia, in a state of continual agitation or oscillatory motion, by which they impel the fluid along the surfaces. Purkinje and Valentin of Breslaw have lately ascertained the interesting fact that this provision exists also in warm-blooded animals. They have detected the ciliary motion in the internal surface of the oviduct in birds, and the Fallopian tubes in mammalia, and of the air-passages in both. As one of these gentlemen was engaged in examining a rabbit, three days after impregnation, for the purpose of finding ova in the Fallopian tube, he saw with the microscope small portions of the mucous membrane of the tube moving briskly, and whirling round their axis. These motions were also discovered throughout the whole of the uterus, and the internal organs of generation, being, however, of different degrees of intensity at different places. They were especially brisk in the tube, less so in the cervix of the uterus, still less in the conjoined parts of that organ, most lively and rapid on its lips, and very strong in the vagina. The same vibratory motions were seen along the whole oviduct of a bird, immediately after the passage of the egg. Animals of the same kind were next examined in the unimpregnated state, and in these as well as in the amphibia the same interesting discovery was confirmed. It appears, from numerous experiments, that this vibratory motion occurs only in two systems of organs: in the sexual organs of the female, and in the organs of respiration. It is general over all parts of the internal surface of these organs, in mammalia, birds, and reptiles. In serpents, lizards, birds, and mammiferous animals, the mucous membrane of the oviduct and the respiratory passages exhibits the vibratory motion throughout its entire extent, both in the impregnated and unimpregnated state, and the smallest portion is sufficient to shew it when properly examined, so that the presence of the property in question may serve as a sure test of the system to which the parts exhibiting it may belong. If it should be ultimately established that only the respiratory and genital membrane possess this property, it would afford a new fact in support of the analogy already held on many other grounds to subsist between them.

Method of investigation. In parts which have long cilia, as the beginning of the oviduct in birds, the motion may be perceived by spreading out a portion of membrane on the object plate of the microscope, covering it with water, and viewing it with the requisite power of the instrument.[*] But to be certain of detecting the phenomena, the following plan must be pursued. The animal must be examined immediately after death. A small piece of the membrane is to be cut out, with a pair of fine curved eye-scissors, and folded on itself in such a manner that the edge of the fold shall be formed by the free surface of the membrane, its adhering surface being now inside and in contact with itself. The object is then to be placed in the *microtomic compressor*,[†] with a little water, and gently pressed, until the folded edge is brought clearly into view under the microscope. To render the phenomenon still more conspicuous, a fluid is to be added, holding small particles of some substance in suspension; as the black pigment of the eye diffused in water, or diluted blood. The current of these particles along the margin of the fold is so strong as to strike the most unpractised eye. It is in all cases absolutely necessary that the mucous membrane alone should be employed. No portion of muscular coat or bronchial cartilage must be left adhering to it, or the experiment fails.

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[*] It is requisite to command a clear magnifying power of from three to four hundred diameters.

[†] An instrument contrived or improved by Professor Purkinje, by which two parallel glass plates can be approximated, so as to compress a soft object under the microscope to any required degree.

Nature and character of the vibratory motions. They are extremely rapid. Wherever they occur, they observe, like the currents which they excite, a determinate direction.* It seems highly probable that the vibratory motions are always produced by cilia. In the female genital, and in the respiratory organs of mammalia, birds, and reptiles, the cilia cannot be mistaken. When the motion is swift the cilia can only be seen by a practised eye, but when it relaxes, they can be perceived rising and falling like oars, till at last, when all movement has ceased, they stand out like stakes from the edge of the folded membrane. Their figure can then be distinctly seen, tapering from the base to their excessively fine and delicate point: their substance is clear, with no appearance of granular structure: their consistence is very soft and tender, so that they are easily destroyed. Animal heat exerts no special influence over the vibratory motions; they are equally brisk in parts that have long been cold, as in those which are quite warm. In the three higher classes of vertebrata, the motion is not only of sufficient force to propel small particles immediately adjacent to the surface, but small portions of the mucous membrane, when detached, move themselves through the fluid. In the mussel the motion is more durable than in the vertebrata. In them it continues to exist with undiminished vigour when they are semi-putrid, softened, and macerated. Although the vibratory motion is to be regarded more as a general morphological phenomenon, yet its particular uses are not to be overlooked. By its means the secretions of those mucous membranes on which it occurs may be conveyed onwards, and many singular phenomena may perhaps be thus accounted for.†

Dr. Sharpey has repeated the experiments of Purkinje and Valentin, and confirmed their discovery of the ciliary motion in mammalia, birds, and perfect reptiles. His additional observations have also shewn, in certain cases, the direction in which matters are impelled along the surface, a point not referred to by the foreign physiologists in their preliminary memoir. Dr. Sharpey has not yet published the whole of his experiments on the subject, as he intends to review it at greater length in an article which he is preparing for the Cyclopædia of Anatomy and Physiology.

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* An exception is noticed to this rule in the gills of the river mussel.

† From Müller's Archiv. Heft. i. 1835, p. 159. "In our work De Phænomeno, &c. p. 77, we have shown that the most powerful narcotics, as hydrocyanic acid, strychnine, morphium, &c. locally applied, produce no perceptible effect on the ciliary motions. And although we had also proved that these motions are altogether independent of the integrity of a larger or smaller portion of the nervous system, or even of the whole of this, it was still quite conceivable, that narcotic poisons, which, locally applied, produce little or no effect, but which, when taken into the course of the circulation, do so in the most striking manner, might, in this way, put a stop to the ciliary motions. Our recent experiments, however, contradict this in the most decided manner. We destroyed rabbits and pigeons by means of hydrocyanic acid and strychnine, sometimes by introducing it into the stomach, sometimes by applying it to recent wounds in the skin. In no case did the ciliary motions exhibit the least alteration; we took the precaution not to open any of the animals until after all convulsive movements had ceased to be perceptible in any part of the body, and even not until the limbs, when stimulated, ceased

ART. VII.—*Manual of Practical Midwifery; containing a Description of Natural and Difficult Labours, with their Management. Intended chiefly as a book of reference for Students and Junior Practitioners. Illustrated by fifteen engravings.* By JAMES REID, M.D. &c. London. 1836. 12mo., pp. 246.

DR. REID tells us in his preface that he has frequently heard students, and those just entering on the arduous practical duties of the accoucheur, complain of the want of a work, which, while it should include all the information that might be necessary in the moment of doubt and difficulty, could still, from its size, be portable, and easily referred to at the precise time when assistance is so anxiously required, and delay might be so perilous. To supply this assumed deficiency in our medical catalogue, the little volume before us is offered to students and junior practitioners. This announcement of the object the author had in view led us to expect he would pursue a totally different plan from that which he has adopted. We expected that the book would contain a series of aphorisms (like Denman's on the Forceps,) describing the nature of the difficulties that are most likely to perplex a practitioner of midwifery, who is to carry his 12mo. guide in his pocket, with general rules as to the treatment required in such cases. Dr. Reid runs slightly and superficially through the anatomy of the pelvis; precursory symptoms of labour; duties of the accoucheur, and most of the subjects connected with parturition which are to be found in elementary treatises on midwifery; but we look in vain, and so will the practitioner, "at the precise time when assistance is so anxiously required, and delay might be so perilous," for brief and clear directions as to the management of doubtful and dangerous cases. The student who wishes, before he commences his obstetrical studies, to run over the enumeration of the leading facts connected with them, may, without much loss of time, look over this little volume. With every disposition to be indulgent, we cannot conscientiously say more in its praise, or recommend it to any other class of readers. We must suggest to Dr. Reid the general propriety of referring to English works when they are quoted by foreign writers. If he had consulted Dr. Merriman, he would have found that 48 cases of convulsions are *not* stated as having occurred in 2000 labours. In 2947 cases attended by Dr. Merriman, only five were complicated with convulsions. The remaining 43 were *consultation* cases; and, consequently, no average of the general frequency of the disease could be drawn from them. In order to correct M. Velpeau's mistake, of which, indeed, Dr. Reid hints his suspicion, Dr. Merriman published a letter in the Edinb. Med. and Surg. Journal for January, 1835.

We admit that elementary works, when well compiled, are in general useful. They prepare a student for his studies; and serve as references or synopses for him to look over, for the purpose of recalling and impressing upon his memory the more elaborate statements of his lecturer;

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to exhibit any automatic movements. And still further to avoid all risk of error in the experiments with the pigeons, we killed a second animal of the same age, by bleeding to death. The differences which presented themselves, in all these experiments, were merely such as originated in the peculiarities of the individual animals from age, nature of the parts, &c. The want of any result from intoxication was everywhere the same."
—*Rev.*

but this we regard as the extent of their utility; and we altogether disapprove of them as pocket guides for ignorant students or inefficient practitioners in the moment of peril; from such assistance an ignorant man may, indeed, be made bolder, but therefore more dangerous; for he may be tempted to rely upon himself and his horn-book, when without this imaginary help, a consciousness of his own deficiency would prompt him to seek counsel and aid from another and more trust-worthy practitioner.

Art. VIII.—*A Manual of Select Medical Bibliography, in which the Books are arranged chronologically according to the Subjects; and the Derivations of the Terms, and the nosological and vernacular Synonyms of the Diseases are given. With an Appendix, containing Lists of the collected Works of Authors, Systematic Treatises on Medicine, Transactions of Societies, Journals, &c. &c. &c.* By John Forbes, m.d., f.r.s.; one of the Editors of the Cyclopædia of Practical Medicine, and of the British and Foreign Medical Review.—Royal 8vo. pp. 404. London, 1835.

It is somewhat singular that there should have appeared two works, during the time over which the first two numbers of our Review may fairly be considered to extend their retrospective jurisdiction, with which the Editors are too intimately connected to render any formal criticism of them admissible into these pages. We, of course, allude to the Cyclopædia of Practical Medicine, and the work of which the title stands at the head of the present notice. Both these works, however, are of too much importance, or, at least,—to avoid every risk of praising ourselves, —*pretend* to be of too much importance, to be overlooked by a Review which professes to notice, not merely all important medical works, but all works published in this country, whether important or not. In the case of the work now before us, still greater delicacy is necessary than in that of the Cyclopædia. *There*, indeed, had we been so minded, without running much risk of compromising our impartiality, we might have selected numerous articles for review and criticism, with which we, as Editors, had nothing to do but to receive them into our collection, and which were of such unquestionable excellence in themselves, and the avowed productions of such distinguished authors, that even the warmest eulogies would have been received from us without cavil or remark. In the present case, however, matters stand on a very different footing; and the utmost that would be allowable on our part, or that could be received on the part of our readers, would be to give a dry statement of the nature and plan of the work, and some specimens of its execution, without commentary or remark. This is what we shall now do; and perhaps the simplest and least offensive way in which our task can be accomplished, is, in the first place, to extract such portions of the Preface as refer to the plan of the work; and, secondly, to insert a few specimens, taken at random from different portions of it.

"The following Bibliographical Collections were originally formed to supply a deficiency in the individual articles of the Cyclopædia of Practical Medicine, and the greater portion of them was published in the Supplement to that work. They are now republished, with additions, with the view of filling, in some degree at least, a very important blank in the medical literature of this country which has long been felt to exist. The plan followed in the Compilation is somewhat different from any with which I am acquainted; and I am in hopes that I have not altogether failed in the object I had in view throughout—of rendering it of easy reference and in every way practically useful. To the attainment of this object I have sacrificed all minor considerations, whether having reference to my own ease and convenience, or to the credit that might attach to the display of such erudition as I am master of, or which the extensive researches which my task imposed upon me might have easily supplied.

"Had I been ambitious of such a display, I might have readily gratified it by the accumulation of references to the miscellaneous writings of physicians in everybody's hands,—to the innumerable monographs which have been printed under the form of Inaugural Dissertations in the various European Universities,—and, lastly, to the individual cases of disease, which form so large a portion of medical periodical literature; and this I might have done with little or no personal research, by merely transferring to my little work—then little no longer—the pages of Haller and Ploucquet, the Bibliographical Notices in the Dictionnaire des Sciences Médicales, and a moiety of the Indexes of the periodical medical collections, now of almost unmanageable size, in this and other countries. But want of space as well as want of inclination, and the governing principle, practical utility, have alike prevented such a consummation; although I am free to confess that so desirable a result has not been attained without the sacrifice of hundreds of pages of manuscript, which had been compiled before what I regard as the proper plan had been thoroughly matured.

"Generally speaking, the reader will find the following pages to consist exclusively of Bibliography, in the stricter sense of the word, that is, an account of *books* only. The sole exceptions to this, of a general kind, will be found to be the references to the great Medical Dictionaries (of which the individual articles have been regarded as distinct works), and to certain Collections of Inaugural Dissertations and Minor Works, which have attained high consideration and a general circulation. Few persons are aware of the very large space in Medical Bibliographies commonly occupied by the titles of Inaugural Dissertations, which have never, properly speaking, been published, and which are not, therefore, accessible to any reader, unless he visits the library of the particular university in which the authors obtained the doctorate. To reproduce, *ad infinitum*, these titular treatises in our bibliographies is not simply to dazzle the ignorant with the semblance of learning, and at no expense, but is to delude the unwary with the bare imagination of a feast which, in all probability, they can never possibly enjoy.

"References to the slighter monographs, and observations and cases in the collected works of authors, or in treatises ostensibly dedicated to other objects, or in the Transactions of Societies and Periodical Journals, are not open to the same objections, and the only reason for excluding them from the following pages is the impossibility of admitting them without superseding others of greater moment, or extending the compilation beyond the prescribed bounds. It will, indeed, be found that the rule of excluding such references has by no means been rigidly adhered to, more particularly where the matter seemed of extraordinary importance, or where the number of works on the particular subject was very limited . . . . It has been after much consideration that the Chronological Order has been adopted in the arrangement of the titles of the different works; this plan appearing to possess important advantages over the alphabetical arrangement, more especially in such a collection as the present, where the list of works is, under no one head, very extensive. The placing the date of the publication in a conspicuous form *before* the title, will, it is hoped, render the advantages of the arrangement still more conspicuous. The adherence to the chronological order has led to one result, which some may think not always satisfactory, that namely, of recording preferably the earliest edition of the respective works. Many exceptions to this will indeed be met with; and, now the work is finished, I regret that, while I prefixed this earliest date to the title, I did not also subjoin the dates of the subsequent editions. The omission, however, will scarcely be found a practical inconvenience, since it is always easier to procure a later than an early edition.

"In a great majority of instances the exact words of the titles have been given, although it has been found necessary, for the sake of economising space, very generally to curtail them: in no case, I trust, will there be found any difficulty of recognizing the work under the title given to it. . . . The Etymology and Synonymy prefixed to the different articles is, I believe, a new feature in works of this kind. I think, however, it will be generally admitted to have a natural relation to the main subject, and, at all events, it cannot fail to be useful to students and the younger members of the profession. The greater number of the modern languages of which synonyms are given, are become, in these days, almost necessary acquisitions for the accomplished physician. If of this number the Dutch, Danish, and Swedish, may be deemed less essential, I shall be less solicitous about the accuracy of the synonyms in these, and less concerned for my own ignorance of them: for the names of diseases in the two last-named languages I am entirely indebted to Nemnich's *Lexicon Nosologicum Polyglotton*, a work of some merit, but far from accurate." (*Pref.*)

The same general plan is followed with each article; the following particulars being given in order: 1. The Derivation of the Term or Terms; 2. The Nosological Synonyms; 3. The Vernacular Synonyms; 4. The titles of the books having reference to the particular disease, organ, or subject, in chronological order.

To avoid all imputation of partiality in our selections, we shall take the initial and final article under the two first letters in the alphabet, introducing merely a few of the titles of the books given under each.

"ABDOMEN, EXPLORATION OF—DISEASES OF.

DERIVATION. The derivation of the word *abdomen* is uncertain. It is commonly said to be formed from the Latin verb *abdo*, to conceal, either simply from this word, (*abdo*, *abdomen*, as *lego*, *legumen*,) or from *abdo* and *omentum* conjointly. It does not, however, appear why this particular cavity should be so distinguished, seeing that its contents are not more *hidden* than those of the chest or head.

VERNACULAR SYNONYMS. *Greek*, Γαστηρ, υπογαστριων, υποκοιλιων, υπητριων. *Latin*, Abdomen, venter. *English*, Belly, stomach, paunch. *German*, Unterleib. *Dutch*, Onderbuik. *French*, Ventre, bas ventre. *Italian*, Ventre, pancia, abdomine. *Spanish*, Vientre, barriga, panza.

1696 *Baglivi, G. M.* De observatione hypochondriorum in acutis (Prax. Med. lib. i. c. 6.) *Rom.* 8vo.

1698 *Stahl, G. E.* De vena portæ porta malorum hypochondriaco-splenetico-suffocativo-hæmorrhoidariorum. *Hall.* 4to.

1742 *Furstenau, J. H. A.* Abscessuum musculorum abdominis exempla. *Rintel.*

1749 *Quelmalz, S. T.* Programma de frictionibus abdominis (Haller Disp. ad Morb. vii. 317.) *Lips.* 8vo.

1751 *Kaempf, J.* De infarctu vasorum ventriculi (Baldinger Syll. iii.) *Basil.*

1752 *Koch, D. Æ.* De infarctibus vasorum in infimo ventre (Baldinger Syll. iii.) *Argent.*

1754 *Elvert, F.* Novæ observationes de infarctibus venarum abdominalium (Baldinger Syll. iii.) *Tubing.*

1755 *Faber, G. B. Brotbeck, A. T.* Ulterior expositio novæ methodi Kempfianæ (Baldinger Syll. iii.) *Tub.*

1797 *Corbella.* Tratado sobre las enfermedadas internas y mas agudas del vientre. *Madr.* 8vo.

1803. *Albers, J. F.* Ueber pulsationen im unterleibe. *Brem.* 8vo.

(With 17 additional titles; in all, 27.)

AUSCULTATION.

DERIV. Lat. *auscultatio*, listening, hearkening, from *ausculto*, to listen, from the ancient *auses* pro *aures*, quasi *aures culto*, i. e. *aures colo*.

VERN. SYN. *Gr.* Ακροασις. *Lat.* Auscultatio. *Eng.* Auscultation, auricular exploration, listening. *Ger.* Das anhören, das erforschen durch das gehör. *Fr.* Auscultation. *Ital.* L'ascoltare, ascoltazione. *Span.* Auscultacion, accion de escuchar.

1728 *Lancisi, G. M.* De motu cordis, &c. *Rom.* fol.

1748 *Brendel, J. G.* De motu cordis Lancisiano. *Goett.* 4to.

1761 *Auenbrugger, Leop.* M. D. Inventum novum ex percussione thoracis humani ut signo abstrusos interni pectoris morbos detegendi. *Vindob.* 8vo.

1770 *Roziere, De la Chassagne,* M. D. Manuel des pulmoniques, ou traité complète des maladies de la poitrine: il y a joint une nouvelle méthode, &c. traduite du Latin d'Avenbrugger. *Par.* 8vo.

1808 *Corvisart, J. N.* Nouvelle méthode pour reconnaitre les maladies internes de la poitrine, par Avenbrugger (transl.) *Par.* 8vo.

1813 *Dessans,* Essai sur la percussion de la poitrine (Diss. Inaug.) *Par.*

1817 *Double, F. J.* Séméiologie générale (t. ii. p. 31.) *Par.*

1819 *Laennec, R. T. H.* De l'auscultation médiate, ed. i. 1819, ed. ii. 1826, ed. iii. par Mer. Laennec, 3 vol. *Par.* 1831. 8vo. *Id.* translated by Dr. Forbes, 1st ed. *Lond.* 1821, 2d. 1827, 3d. 1829, 4th. 1834.

(With 44 additional articles; in all, 52.)

BARBIERS.

Deriv. Unknown: vernacular Indian word.

Nos. Syn. *Beriberia:* Sauv. Sag. Cull. *Synclonus beriberia:* Good. *Beriberia Indica:* Bontius. *Beriberi:* Manget. Linn. *Asthenia beriberia:* Young. *Paralysis beriberi:* Tulp.

(For Literature, see Paralysis; also Climate.)

BATHS AND BATHING.

Deriv. The English word *bath* is of Saxon origin, *bad,* which still retains the original form in the modern German.

Syn. (1. *Bath;* 2. *cold bath;* 3. *warm bath.*)

Gr. 1. Βαλανειον; 2. ψυχρολουσια; 3. θερμολουσια. *Lat.* 1. Balneum, balnea, balineum, baliniæ; 2. balneum frigidum; 3. balneum calidum. *Eng.* 1. bath; 2. cold bath; 3. hot or warm bath. *Ger.* 1. bad; 2. kaltes bad; 3. warmes bad. *Dut.* 1. bad, 2. koud bad, koel bad; 3. warm bad, heet bad. *Fr.* 1. bain; 2. bain froid; 3. bain chaud. *Ital.* 1. bagno; 2. bagno freddo; 3. bagno caldo. *Span.* 1. baño; 2. baño frio; 3. baño caliente.

1533 Anon. De balneis omnia quæ extant apud Græcos, &c. *Venet.* fol.

1543 *Fumanellus, Ant.* Consilium, &c. et de balneis ferratis et aquæ simplicis. *Basil.* 8vo.

1552 *Clivoli, Bart. A.* De balneorum naturalium viribus. *Lugd.* 4to.

1565 *Guintherus, Joan.* Commentarius de balneis in tribus dialogis. *Argent.*

1568 *Turner, W.* M. D. Book of the nature and properties of the baths of England, &c. *Collen,* fol.

1579 *Rulandus, M.* Balnearium restauratum. *Basil.* 18mo.

1622 *Baccius, And.* De thermis libri septem. *Rom.* fol.

1633 *Jorden, E.* Of bathes and mineral waters. *Lond.* 4to.

1636 *Brancaleonis, J. F.* De balneorum utilitate, ex Hippocrate. *Par.* 8vo.

1641 *Oliva, Chr. de,* Trattado de los baños de aqua dolce. *Saragossa,* fol.

(With 95 additional titles; in all, 105.)

BRONCHOCELE.

Deriv. From *βρογχος*, the throat, and *κηλη*, swelling: *βρογχοκηλη*.

Nos. Syn. *Bronchocele botium:* Roncalli. *Bronchocele:* Sauv. Vog. Auct. Var. *Gongrona:* Hipp. Galen, Vog. *Deironcus glandularis, Thyroncus:* Swed. *Tracheocele:* Heister. *Thyrocele, Hernia bronchialis, Hernia gutturalis, Hernia colli:* Auct. *Thyrophraxia:* Alibert. *Cynanche thyroidea:* Conradi. *Struma:* J. Frank, Auct. Var. *Trachelophyma:* Sagar. *Botium:* Paré. *Thyreophyma:* J. P. Frank.

Vern. Syn. *Gr.* Γογγρωνη, βρογχοκηλη. *Lat.* Guttur tumidum, guttur globosum. *Eng.* Swelled neck, Derbyshire-neck, Derby-neck. *Ger.* Kropf, windkropf, luftröhrenbruch, dicker hals. *Dut.* Gorgelgezwel, krop, kropgezwel. *Dan.* Keigbyld. *Swed.* Struma. *Pol.* Wola. *Fr.* Goître, gouëtre. (Sauv.) *Ital.* Gozzo, gozzaja, broncocele. *Span.* Papera, bocio, seca, lamparones.

1752 *Astruc, J.* M.D. Traité des tumeurs, 2 vol. *Par.* 12mo.
1759 *Astruc, J.* M.D. Recueil concernant le traité des tumeurs. *Par.* 12mo.
1762 *Prosser, Thos.* An account and method of cure of the bronchocele or Derby neck. *Lond.* 8vo.
1777 *Read, M.* Mémoire sur les bronchocèles du pays Messin. *Nancy,* 12mo.
1779 *Wilmer, B.* Cases in surgery, with the method of curing the bronchocele. *Lond.* 8vo.
1782 *Prosser, Th.* On bronchocele and ovarian dropsy. *Lond.* 4to.
1787 *Valentin, J. L.* Dissertatio de struma bronchocele dicta. *Nancy,* 4to.
(With 43 additional titles; in all 50.)"

The Appendix comprises an extensive selection of works arranged under the following heads:—

1. The works of the principal writers on medicine which have been published in a collected form.
2. Systematic treatises on the whole or the greater part of practical medicine, by single authors.
3. Miscellaneous observations and memoirs on different parts of practical medicine, by single authors.
4. Collections of inaugural dissertations, and of the minor works of different authors, republished in a distinct form.
5. Transactions, memoirs, &c. published by colleges, academies, societies, &c.
6. Periodical works, or works published at periods more or less regular, not the productions of colleges, academies, or societies.

Art. IX.—*A Dictionary of Terms used in Medicine and the Collateral Sciences.* By Richard D. Hoblyn, m.a. Oxon.—*London,* 1835. 12mo. pp. 329.

Mr. Hoblyn's object in compiling this Dictionary has been to present to the student in a concise form an explanation of the terms which are *most* used in medicine. He has introduced many of the more recent terms, and has supplied, in an Appendix, a small selection of obsolete ones. His work forms a duodecimo volume of 350 pages, closely printed in a very clear legible type. Forsyth's London Medical and Surgical Dictionary, to which this approaches the nearest, (printed in 1826,) is swollen to twice the size, chiefly by the insertion of terms which are never met with in the ordinary books of modern medicine.

Mr. Hoblyn has considerably simplified his subject by his arrangement of words having the same prefixes and affixes. Thus, all words compounded with the same preposition, or generic term, are classed under the same heading, by which the repetition of the same word is avoided, and the derivations themselves are more easily remembered. To take an instance:

"GASTER (γαστήρ), the stomach.

1. *Gastric.* Appertaining to the stomach: hence the term *gastric juice,* or the digestive fluid of the stomach.
2. *Gastritis.* Inflammation of the stomach.
3. *Gastro-cele* (κήλη, a tumour.) Hernia of the stomach.
4. *Gastro-cnemii* (κνημη, the leg.) Muscles which principally form the calf, or belly of the leg: they are distinguished as *externus* and *internus,* and are attached, respectively, to the outer and inner condyle of the femur. Their office is to extend the foot. [Their insertion should not have been omitted.]
5. *Gastr-odynia* (οὐδνη, pain,) or Gastralgia (αλγος, pain.) Pain in the stomach.

6. *Gastro-enteritis.* Inflammation of the gastro-intestinal mucous membrane.
7. *Gastro-epiploic* (ἐπίπλοον, the omentum). Belonging to the stomach and omentum, as applied to a branch of the hepatic artery, lymphatic glands of the abdomen, &c.
8. *Gastro-raphe* (ῥαφη, a suture.) A suture uniting a wound of the belly, or some of its contents.
9. *Gastro-splenic omenta.* A term applied to the laminæ of the peritoneum, which are comprised between the spleen and the stomach.
10. *Gastro-tomia* (τομὴ, section.) The operation of opening the abdomen, as in the Cæsarian section." (P. 80.)

The classification of prefixes is introduced into the body of the work; but, as it would be impossible to do so with the affixes, a collection of words so arranged is given separately. For instance:

"— CARDIA (καρδία, the heart.) A termination denoting the heart. Hence—
A-cardiac (a, privative.) A term applied to animals without a heart.
Hydro-cardia (ὕδωρ, water.) Hydropericardia: dropsy of the pericardium.
Peri-cardium (περί, around.) The membrane which surrounds the heart."

These selections will give a fair notion of the merits of the explanations. The anatomical parts are clear and simple, no detail being attempted.

Although the primary object is medicine, yet the nomenclatures of the sciences more immediately connected with medicine have been introduced; as well as classifications of poisons and their antidotes, and various tables of physiology, materia medica, &c. compiled or copied from good authorities. Under the word Climate, a useful condensation of Dr. Clark's observations is given. A considerable collection of the formulæ of quack medicines has been made; and, although the proportions of the ingredients is not given in all instances, nor the authorities for the information, yet the information it affords may be often advantageous. Under the head of Injection, (in the Supplementary List,) the author has given the composition of the various injections employed for anatomical purposes, with directions for preparing and using them. Under the word Thermometer is given, among other information, a table shewing the correspondence of the three thermometers, called Fahrenheit's, the Centigrade, and that of Reaumur, which is continually useful as a reference to the numerous readers of French works, in which the temperature is always expressed according to the centigrade thermometer.

On the whole, Mr. Hoblyn has accomplished the object he had in view; and we can safely recommend his work to the younger students of medicine especially, who will find it a portable and very useful addition to their libraries. We would suggest that, in a future edition, some of the tables (such as physiology) might be advantageously omitted, as well as sundry quotations from Shakspeare, &c.; and that, in their stead, more pertinent information should be introduced: such as the synonyms of muscles, which are often very perplexing to the beginner, and for which he has recourse to his dictionary. Cloquet's Anatomie Descriptive, vol. i., would furnish these particulars. In some instances, also, such as Tendo Achillis, &c., we think that Mr. Hoblyn has been inclined to give the student credit for too much information; and that a little more detail in the explanation of the derivations should have been entered into; for the object of the work is to explain terms to those who, for the most part, are deficient in that sort of knowledge, which, when possessed, renders the consultation of these limited dictionaries rarely necessary. The quantities in the Latin words might also have been marked, as well as in such words as Plethora, &c., and the derivations of many of the metals, as Nickel, Palladium, &c.

Art. X.—*The Medical Student's Practical and Theoretical Guide to the Translation and Composition of Latin Prescriptions; with an Explanatory Latin Grammar, written in a familiar style; together with a Text-book and Exercises, calculated to make the Learner thoroughly acquainted with the verbal and grammatical Analysis of the Pharmacopœia, Prescriptions, &c.* By J. W. Underwood.—*London,* 1835. 12mo. pp. 132.

We looked into this little book, as in duty bound, firstly, because the author had the courtesy to send it to us; secondly, because (although hardly coming within the scope, ample as it is, announced in our title-page,) it might yet be of no small importance to a class of readers among whom we hope to find many abettors, and whose interests we shall ever regard as placed peculiarly under the vigilant eye of the directors of the periodical medical press. The student requires to be protected quite as much against the evil effects of his own well-designed miscalculations, and the counsels of well-meaning but injudicious friends, as against the operation of vexatious legal enactments, or ill-considered corporate regulations. We have not time at present to enter upon the subject of the preliminary education requisite for the medical student, of which the study of the Latin language constitutes so important a part; but we must be permitted to observe, in passing, that, if the recent regulation adopted by the Apothecaries' Company, of admitting young men to their classical examination on *commencing* their studies in London, be designed to exclude all further testing of the candidate's proficiency in the Latin language, when they present themselves for the licence after completing their medical studies, the rule is, in our opinion, most injudicious, and calculated to perpetuate and increase the very evils it was intended to mitigate or remove. It is surely not merely desirable that the student should give evidence that he has acquired a competent knowledge of the Latin language, previously to entering on the serious business of studies more strictly professional, but also that he preserves this knowledge during the progress of these studies, and carries it into practice with him. It would, no doubt, be of advantage to a medical student to have undergone the intellectual training implied by the study of the ancient languages, even if, on entering upon his profession, he were to lose all practical knowledge of them; but surely it will be equally admitted that the preservation of the knowledge acquired in the classical school-room, must be at least of as great importance to the practitioner of medicine. Now, does not the regulation alluded to almost seem to imply—(it being assumed that this preliminary examination is the *only* one in classics,) that the student, having once exhibited the requisite degree of competency in Latin, may for ever after disregard it? Or, at least, will not this be, in fact, the practical operation of the regulation on the minds of a considerable number of students? The learned directors of the Apothecaries' Company may have had a truer and more disinterested love of Latin for itself, and a more astringent memory for vocables and syntax, than we could ever boast of; but, for our own parts, we are bound, by the faith of honest criticism, although with shame and confusion of face, to acknowledge that, had it not been for the consciousness ever present to us during our medical studies, that we should have to *make our appearance in Latin* at the end of them, we might, in our free zeal for *science*, have actually forgot, if not all, at least much of the *literature* that had been forced upon us in our earlier years. We shall heartily rejoice to find that there is a difference in this respect between the students of present and former times, and that the good intentions of the Apothecaries' Company, which we do not for one moment call in question, will be fulfilled and our fears proved to be without foundation: we, however, to say the least, entertain very strong doubts on the subject.

Of the little work before us we would say, that, if any student, not well-grounded in the principles of the Latin language, imagines that, by means of it, he will be enabled to acquire any knowledge of that language that will be really useful to him in the study and practice of his profession, he will be utterly disappointed on making the trial. It is totally inadequate to fulfil so large a scope; and, indeed, no book can do so. As a grammar, it is correct as far as it goes, but it goes a very short way indeed. It does not include a tenth part of the essential rules of syntax; and a student, complete master of every one contained in it, and of none besides, would be confounded by the very first sentence he might be desired to construe and parse, in Celsus, Gregory, or the Pharmacopœia.

It would not, however, be doing justice to the author of this little book, if we did not state that he is evidently a good scholar himself, and that in general, he very successfully eschews, in his "Exercises," that species of Latinity which is too common, we fear, in professional practice, and which has been wittily said to have derived its stock of words from that part of the dictionary which used, in our school-days, to be entitled "Index vocum, ab iis qui Latine scribere velint, vitandarum." Celsus, Heberden, and Gregory, are evidently his authorities; and we can safely recommend his "*Key to the Prescriptions*," in the latter part of the volume, as containing a good collection of medical phrases suited for extemporaneous prescription, and to which even the classical student may apply with advantage, as containing phrases and vocables which may not be familiar, and yet very necessary to him.

Art. XI.—*A Literal Interlineal Translation of the first Ten Chapters of Gregory's Conspectus Medicinæ Theoreticæ; with the original Text. To which are added, an Ordo Verborum, and Rules for Construing, &c. &c.* By Robert Venables, a.m. m.b. Oxon.—*London*, 1836. 12mo. pp. 122.

Applying the same remarks to the introductory matter of the present little work which we made respecting that of Mr. Underwood, just noticed, as being utterly inadequate to the teaching of the Latin language to those who are ignorant of it, (if, indeed, this is contemplated by the author, who certainly does not formally say so,) we are bound to state, that a partial inspection of the text in various parts of it leads us to believe that the translation is, on the whole, very correct and judicious, and cannot fail to be very useful to those who are sincerely desirous of following up their studies of the Latin medical classics. We agree with the author in thinking that a translation of a work from a language of which we are commencing the study, or rather, we should say, in which we have already made a little progress, is, if well executed, calculated to assist the industrious, while it can scarcely make the idle worse than they were before: but we need hardly say, after what we have stated in the preceding Notice, that the student who fondly imagines that the best and most literal translation will stand him instead of a thorough elementary knowledge of grammar, acquired in the usual way, by long and painful study, will sooner or later find himself utterly and miserably deceived.

And here we would venture to suggest to the Examiners at Apothecaries' Hall, the propriety of varying from time to time the books submitted to the candidates for licences as tests of their classical knowledge. If it is once generally known—and the multitude of recent works similar to that now before us seems to countenance the belief, (nay, we are told that in some of them the fact is boldly announced,) that the examinations are invariably confined to a certain number of books of Celsus or Gregory, it will require, we imagine, no very superior ingenuity for a youth very indifferently skilled in Latin, by the aid of such translations as that now before us, and the terrible assiduity of a two months' drill under an experienced leader, to exhibit a very complete mastery, as far as rendering into English goes, of all the pages submitted to him on the day of examination. If, in place of this, no particular books were fixed on as the subject of examination, or if the announced list was enlarged so as to take in some three or four more authors,—say, for instance, Mead, Heberden, Sir G. Baker, Lommius, or any other *easy* yet good writers, (for we by no means wish to make the examination a severe one,) *the cramming* "for the nonce," which we have mentioned as practicable at least, if not practised, could hardly take place.

Art. XII.—*De Glandularum Intestinalium Structura Penitiori. Commentatio Anatomica scripsit* Dr. Ludovicus Boehm. *Cum II. Tabulis æri incisis.*—Berolini, 1835. 4to. pp. 54.

On the Minute Structure of the Intestinal Glands. By Dr. Ludovicus Boehm.—Berlin, 1835.

The present thesis has substituted a minute and careful anatomical description and arrangement, for our hitherto incomplete and inaccurate knowledge of the glandular apparatus of the intestinal canal. After a close examination of their general anatomy, and a microscopic investigation of their minute structure, Dr. Boehm has classified the various intestinal glands, and has accurately distinguished many that have hitherto been confounded. This is particularly the case in his distinction between the glandulæ solitariæ and those of Brunner, the structure and situation of which are as different as is their tendency to become diseased. The various sources which have contributed to a diversity of opinion among anatomists who have attended to the intestinal canal, are exemplified by a comparison of the different forms of the glandular structures in different animals; and, to avoid those errors which have frequently arisen from the examination of structures particularly liable to morbid affections, in individuals who have died from disease, and whence incorrect inferences have been drawn, Dr. Boehm selected the intestines of suicides, or of those who had met with sudden death.

In our last Number we adverted briefly to the investigations of Dr. Boehm; but we regard them as of sufficient importance to demand from us a more detailed exposition; and accordingly we present our readers, in the following pages, with a condensed translation of all the more important passages in the work, and give in a plate (Plate III.) the more valuable of his illustrations. In executing our task, we shall not interrupt the descriptions by any remark or criticism of our own; we shall only observe, in this place, that Dr. Boehm's speculations respecting the functions of the various glands are not quite satisfactory. A comparison of the secretions of mucous membranes, generally, would have tended much to confirm or disprove the theory which is offered as to the uses of the corpuscles of the glands of Peyer. This comparison has been but partially instituted. The application also of his researches into the anatomy and physiology of these glands, to their pathology, is very limited, and presents nothing new, excepting as it regards the diseases of the glands of Peyer.

On the general Anatomy of the Glands of Peyer. In the small intestine of the mammalia, sometimes throughout its whole course, at others in a more limited extent, are seen insulated spots, generally of an oval form, and containing certain corpuscles; the intestinal parietes at these places having lost their transparency, and become thickened. The size of these spots, or glands of Peyer, increases until they attain their maximum at the junction of the cæcum with the ilium. With but few exceptions, they are situated opposite the insertion of the mesentery. These glands are composed of crowded, but distinct and hollow corpuscles; one extremity of which is attached to the mucous membrane, the other projects into the canal. This little eminence is of a remarkably white colour, and circumscribed; in man, either round or flat. On slitting open the intestine, and examining Peyer's glands, both here and in the other parts of the mucous membrane, are found the mucous follicles or crypts of Lieberkühn. But the most conspicuous objects are elevations of a milk-white colour, occupying in great number the glandular apparatus, scarcely a line in diameter, situated in the submucous tissue, and covered by the mucous membrane. On removing the mucous membrane, together with these bodies, numerous indentations remain in the submucous tissue. Each corpuscle consists of a thin and pellucid capsule, which appears white, in consequence of a similarly coloured fluid within it. The cavity and its contents are best seen by placing a portion of the gland in water, and examining it with the point of a needle, beneath a microscope. A milky fluid, which renders the water turbid, escapes, and at first obscures the view of the capsule. When it is empty, the round cavity may be observed. It is as broad, but not so deep, as the projecting corpuscle, and is entirely destitute of cells. Occasionally the capsule is quite empty; in which case it is examined with much more difficulty, on account of its flaccidity, and the absence of its distinguishing colour. The corpuscles are often found empty after death from acute inflammation or violent fevers. In those whose death has resulted from chronic disease, these bodies are so changed or destroyed, that it can be no matter of surprise that, among those who have examined them, there should be a difference of opinion. Two laminæ constitute this capsule, and these I have only been able to distinguish in man. It sometimes happens, whilst dissecting under a microscope, that a thin epithelium is removed from the surface of a corpuscle containing fluid, without either an opening being made into the cavity or escape being given to its contents. This epithelium, as it extends to the parts surrounding the prominent capsules, must belong to the mucous membrane. In some morbid changes, the epithelium has been more readily separable.

The Crown of Tubes. The corpuscles constituting the glands of Peyer in mammalia are surrounded with a remarkable crown of small tubes. On examining the margin of each prominent corpuscle, a series of circular apertures may be observed, either surrounding it or situated upon it. In man these apertures are rarely more than ten in number; in the horse and sheep I have counted more than forty. From within each aperture, white processes extend to the mucous membrane. Sometimes these apertures are round, at others oblong, and radiated by processes extending from a central corpuscle; a form which is found to exist in newly-born children. Any one unaccustomed to microscopic investigations will best detect these apertures by extending a portion of healthy mucous membrane upon a black surface. What are the uses of these apertures? It seems little rational to suppose that a cavity which is not cellular should be supplied by several excretory ducts. Pressure upon the capsule never caused the escape of its contents by these apertures. No foramina could be detected within the cavity of the corpuscle. On removing a single corpuscle, (which I could effect from the mucous membrane of the horse or sheep,) the circle of apertures did not adhere to the mucous membrane, but remained attached to the separated corpuscle. The openings were then found to pass into small tubes, the processes already mentioned being situated between them. The form of these tubes resembles that of the crypts of Lieberkühn, except that their apertures are sometimes round, at others oblong.

Corpuscular Sheaths. The presence or absence of sheaths has the greatest influence in modifying the form of Peyer's glands. In man, these glands appear somewhat raised above the surrounding mucous membrane; in all other mammalia, they are surrounded by a species of annular fossa, as the vaginal papillæ of the tongue. These sheaths are proportioned to the prominence of the glands, and in the ox and horse entirely conceal the glandular apparatus. This structure has given rise to the mistaken notion, that in such cases the glands themselves do not exist. Not only the corpuscles, but also the circle of tubes surrounding the corpuscles, are protected by sheaths; a structure which becomes evident by slightly stretching the mucous membrane, and examining it with a lens. These sheaths probably defend the parts which they enclose.

The Course of the Blood-vessels. An extremely subdivided network of blood-vessels, passing from the submucous tunic, surrounds the whole of each corpuscle, so that a successful injection renders them of a deep red colour. In the normal state, the glands of Peyer are not more vascular than the other parts of the intestine; but no portion of it is so ready to receive an additional supply of blood or to form new vessels. Hence the greater redness of the glands in congestion or inflammation of the intestines, and hence their peculiar tendency to disease. It has been commonly said that the corpuscles of Peyer's glands do not differ from simple follicles, and that they have a central aperture. By no mode of investigation have I been able to assure myself of this; unless a central depression, which is very rarely to be seen, and from which no secreted matter can be pressed out, is so to be considered. The circle of foramina already mentioned, and which may be easily detected by a simple lens, has probably been mistaken for an aperture in the corpuscle. The collapsed state of the corpuscles which is seen after death from some diseases may have contributed to the same error; and not unfrequently in such cases a true opening is formed in the central capsule, and this may be so extended as to terminate in its complete destruction. Dark points, probably of a melanotic nature, are often seen in great abundance within the pellucid capsule.

Contents of the Corpuscles. Peyer's glands are generally supposed to secrete mucus. The small quantity which can be collected prevents a chemical examination of their peculiar fluid. Certain differences are discoverable by a microscope between this fluid and mucus. Mucus consists mainly of a viscid, pellucid fluid, in which whitish flocculi are suspended. The globules are only contained in these flocculi: according to Weber, the largest are not equal in size to those of the blood, the least are about one half. The fluid of the corpuscles has no pellucid portion, but appears thickish, whitish, not viscid, and mixed with a portion of water: it consists of innumerable round but not regularly formed globules, conglomerated together, and which swim when thrown into water. They are much less in birds than in man and the mammalia; but they are not always of the same size in the same animal: some are less, others of the same size, and others larger, than the globules of the blood. I have found their diameter of English lines,

In the rabbit, ..	0.0022	0.0024	0.0030	0.0032	0.0037
In the ox, ...	0.0020	0.0023	0.0025	0.0029	0.0036
In the goose, ..	0.0015	0.0017	0.0018	0.0021.	

These globules want both the regular form and the nucleus of those of the blood. Thus, there appears to be a difference between mucus and the contents of the corpuscles. If, however, the innumerable globules are to be considered as mucous granules, it may perhaps be inferred that these cavities add to a pellucid and viscid secretion of the mucous membrane, an abundance of globules, which appear in it as whitish flocculi.

Glands of Peyer in Man. Their average number is twenty, the end of the ilium being their principal seat. They extend throughout this intestine, isolated from one another; and, if any exist in the jejunum, the intervals between them are much increased, and the corpuscles of which they consist are less crowded, and with difficulty recognized. Their situation is opposite the insertion of the mesentery: they consist of plexuses, generally oval, rarely round or angular; their long diameter corresponding to the course of the intestine, and their circumference limited by a scarcely prominent margin. (Pl. III. Fig. 1.) They are generally about a finger's length, but in the commencement scarcely half as long, and sometimes I have seen them extending a foot. The valvulæ conniventes, which are more numerous and prominent in the commencement of the small intestine, pass over the plexuses which are found in the jejunum, but do not interfere with those which are found in the ilium; so that it happens that the valves are occasionally twelve times or oftener interrupted. But more frequently the valves, intercepted in the glandular portion, are again connected by densely congregated villi. The accumulated corpuscles present an unequal, elevated, and glandular appearance, as if many vesicles were placed side by side; but undistinguishable separately by the naked eye, unless they have attained their full size. These eminences, arising from the even mucous membrane between the villi, are not surrounded by sheaths, nor are there any mucous crypts within foveolæ; circumstances widely differing from what is observed in the glandular apparatus of other mammalia. Viewed beneath a simple microscope, most of the corpuscles appear round, but not shaped after any certain rule, and appear as they are represented in Pl. III. Fig. 2. Beside these round corpuscles, some are narrow and extended, others curved or semilunar; some subdivided into many parts, others consisting of two corpuscles in close apposition, and somewhat raised. Sometimes processes from their margin give them a radiated appearance; others are found which occupy the same place with one or more villi, or proceed from the back or top of these villi; a peculiar form of Peyer's glands, which I have only found universal in one individual. Most rarely have I detected the central depression in the corpuscles, and never any aperture. The remarks already made on the circle of small openings apply also to the glands of Peyer in man. In those who die of fevers and other general diseases, the corpuscles are found empty: hence they lose their whiteness and turgidity, and become transparent and collapsed. On this account, my investigations into Peyer's glands have been made on suicides and those who have met with sudden death. The intestinal ulcerations which are met with in abdominal typhus do not originate in the glands or corpuscles themselves. The first and most evident change (as Carus has observed), consists in an exudation which takes place in the submucous tissue. To examine this exudation, that part of the ilium where the ulceration has not yet commenced should be selected. In the normal condition, when the mucous membrane is cautiously removed, the submucous tunic around the glands is found more compact and more intimately connected than elsewhere to the mucous and muscular coats. The submucous tunic around a gland of Peyer, which, in a case of abdominal typhus had

Plate III.

Fig 1

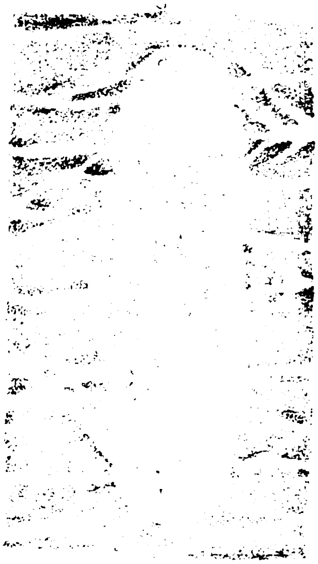


Fig 2

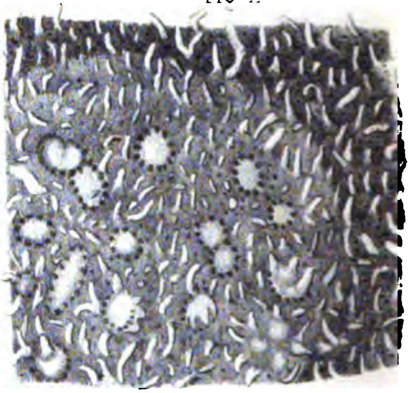


Fig 3

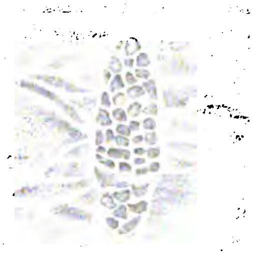
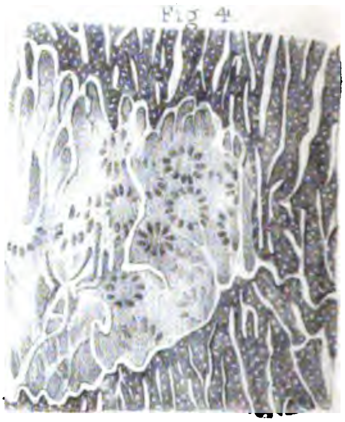


Fig 4



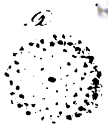


Fig 9

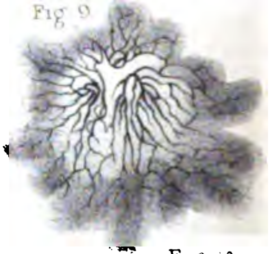


Fig 5

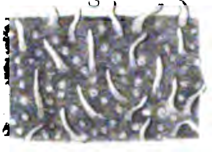


Fig 8

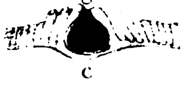


Fig 7

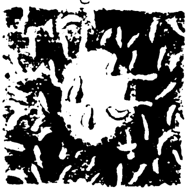


Fig 6

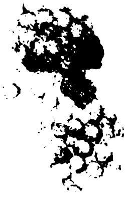
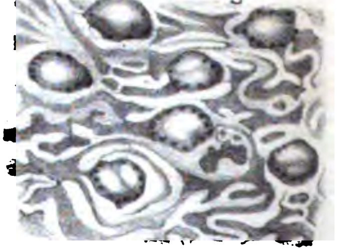


Fig 10



[illegible]

been apparently but a short time changed, when examined in the same manner, was evidently destitute of cellular structure in that part, and exhibited a solid, whitish, grey mass, which, when subjected to a compound microscope, retained no vestige of the organic structure, which we should have expected, but was evidently interwoven with fibres of cellular tissue. This deposit, which is often so abundant as to acquire an elevation of several lines, if formed in larger quantity, elevates the glandular apparatus, whilst the corpuscles themselves are scarcely changed, so that its margin is converted into a broad border. The solidity, density, and peculiar colour of this effused matter constituted a difference between it and that to which the swelling of common inflammation is ascribed. Thus, the true inflammation of the intestine is not to be considered as primary, but as consequent on the distention and irritation of the mucous membrane of the corpuscles covering the exudation: the continuance of this cause leads to ulceration of the corpuscles and glands themselves. The mucous membrane being destroyed, the bottom of the ulcer is formed by the exuded matter, which is hence lardaceous, hard, often rough, unequal, furrowed, and surrounded by callous margins, often of a peculiar yellow colour. Mercurial injections frequently pass through the enlarged mouths of the sanguiferous vessels; hence it is not surprising that hemorrhages sometimes occur. I do not contend that in abdominal typhus all the ulcers are formed in this manner: such would be contrary to the experience of others, and to what I myself have observed in some instances.

Peyer's Glands in Infants, and the Evolution of the Intestinal Villi. The extremely delicate mucous membrane of newly-born children, when spread upon a black surface, appears like a most delicate network, the spots in which are formed by the glands of Lieberkühn. The villi are not always uniform. Although they are often of the same form as in the adult, still in some instances, instead of single cylindrical villi, I have found small folds extending to the same limits as the circular muscular fibres. The glands of Peyer may be seen with equal facility as in the adult, by examining a portion of small intestine towards the light. Their number is the same: their size proportional to the smaller circumference of the intestine, and about equal to that of a bean; their margin is circumscribed. Aided by a simple microscope, the greater part of the glandular apparatus is seen to be covered with crowded folds, flexed in various directions, one of which always surrounding the gland in its sinuous course, constitutes, as it were, its margin, and is more elevated than the rest. (Pl. III. Fig. 3.) Billard has considered these folds to consist of glands partially evolved, with glands lying hid beneath them; and that subsequently, as the glands themselves arise, the folds diminish, and eventually disappear. But, in newly-born children, corpuscles are distinguishable between the folds. The real nature of these folds will be evident, on a comparison with the villi of the other part of the mucous membrane. These villi in infants form broad folds, generally running in the direction of the valvulæ conniventes, and sometimes coalescing. There can be no doubt that these folds, in advancing life, pass into the state of villi. What opposes the conclusion that the same metamorphosis happens to those folds which occupy the glandular apparatus? The surface of Peyer's glands in infants is beset with sinuous folds, not with villi; the latter occupy the place of the former in adults. The folds in infants are much more frequent in Peyer's glands than in other parts of the mucous membrane; and, in adults, the villi are far more numerous at the same situation: but sometimes, by the adhesion of several of these villi, their primitive form is lost. The relationship between the folds and villi is also confirmed by the fact, that in many animals, for instance the ox and sheep, the folds in the course of the jejunum are gradually diffused, until at length in the ilium villi alone exist. And, in man, the mucous membrane of the duodenum is covered with reticulated folds, which are gradually more and more formed into single lamellæ, and at length pass into villi. Reptiles and fishes are without villi, and in their stead is a large number of folds.

Although the corpuscles of Peyer's glands in infants are smaller and less defined, they are easily separated. In adults, they arise from the even surface of the mucous membrane; in infants, they exhibit the same general structure as in the mammalia. In the surface of the glands, many broad pits are observed, surrounded by folds, in which the corpuscles are contained. (Pl. III. Fig. 4.) The corpuscles are small, white, and give off radiating processes, separated by depressions. In early life, these processes almost unite in the central corpuscle; but, as this rises and increases, the rays become less; and at length, the corpuscle having attained its full size, they become so small as almost to escape observation. They constitute in adults the dissepiments of the crown of tubes. As age advances, those depressions, in which, in the newly-born, the corpuscles are contained, are gradually flattened, and at length disappear; so that the individual corpuscles arise from the otherwise even glandular surface, like little eminences between the bases of the villi.

It is unnecessary to dwell on that part of the present Essay which is devoted to the comparative anatomy of Peyer's glands in the mammalia, more than to notice the structure, which under various modifications has contributed to confirm the notion that there are apertures in the corpuscles of these glands in the human subject. In the horse, several corpuscles are sometimes contained in one sheath, like eggs in a nest. The aperture of the sheath has been mistaken for an aperture in the corpuscles themselves, which have been overlooked. The same is the case in the ox, the sheaths being very deep, in the bottom of which are situated the corpuscles. When these bodies are examined, the crown of tubes and other distinctive characteristics of the corpuscles are readily distinguished. The usual structure of Peyer's glands is substituted in birds by crowded and peculiarly formed villi. These villi form, by their junction, a plexus, which contains cells passing deeply into the mucous membrane. These cells may be compared to the sheaths of the corpuscles in the mammalia. There are no corpuscles within these cells; but, in their place, foramina, which descend to sacculi that are prominent on the outer surface of the mucous membrane. Excretory ducts, which are not found in mammalia, here exist, and on pressure give escape to a whitish fluid. The bases of the sacculi, surrounded by the vascular tissue, sometimes penetrate the muscular coat, and may be seen through the serous membrane. The fluid contains innumerable globules; generally round, but less in size than in the mammalia.

Cryptæ minimæ, Folliculi minimi, seu Glandulæ Lieberkuhnii. Innumerable foramina beset the mucous membrane of the whole intestine: those in the large must be considered separately from those in the small intestine; not on account of their different structure, but because the former are larger and more easily recognized; the latter so small, that, in a healthy intestine, they can only be seen by the aid of a magnifying power. I shall first describe the latter. Lieberkühn thus speaks of them. "The surface of the intestine is occupied by villi, the bases of which are separated somewhat from one another. On the surface of the intestine, parallel to the bases of the villi, may be detected, by a careful examination, numerous open mouths of follicles, and in the bottom of these, whitish bodies are situated." Lieberkühn considered these corpuscles as glands. Haller was of the same opinion. Others have not only disputed their nature, but their existence; and among the latter were Cuvier and Billard. Rudolphi contended that they were not glands, but subservient to the function of absorption. After the most careful examination of these organs, both in man and animals, both in the healthy and diseased state, I am convinced that they are not foramina perforating the mucous membrane, but secreting cavities, situated in a simple recess of the mucous membrane, and to be considered as simple glands. In order to detect these crypts, the mucous membrane of infants should be selected: and, for a comparative experiment, the delicate membrane of other mammalia. Being stretched upon a black surface, and immersed in water, the intervals between the villi are seen studded by innumerable black apertures, which, in the fœtus and newly-born child, are so abundant as to be almost in contact. The intervals increase in the adult, so that they occupy more space than the apertures. Lieberkühn probably rather overstated the fact, in saying that each villus was surrounded by eight apertures. Every aperture leads to a simple follicle, the depth of which is in proportion to the thickness of the mucous membrane. The follicles are situated in the mucous membrane itself, though they do not project beyond its external surface. In this character, they appear to differ from all the other follicles, and particularly from those of the large intestine: for those which occupy the end of the colon project like long tubes from the external surface of the mucous membrane; those, however, of the ascending colon are more like the crypts of the small intestine. If a difficulty is found in ascertaining the state of the crypt as described, this must be attributed to their minuteness; and, in order to preserve the very thin membrane at their base, the mucous membrane must be most carefully removed, lest, by tearing it from the subjacent membrane, foramina should be artificially produced. I have found this follicular structure most distinct in the mucous membrane of the wood pigeon. Are the round whitish bodies in the bottom of these follicles to be considered glands, as Lieberkühn supposed? They are generally absent in healthy crypts. I have noticed them after death from inflammations, particularly of the intestines, (Pl. III. fig. 5;) in idiopathic nervous fever, in which, although there was no ulceration of the mucous membrane, a sub-inflammatory condition of it existed: also in cases of death from general dropsy, and in scrofulous infants. (Pl. III. Fig. 4.) Hence I conclude, that this whitish substance in the crypts is a retained secretion. The chief arguments in favour of this idea are, the absence of these bodies in health; their presence in disease; their greater abundance and size when and where diseased action is most manifest; the fact, that sometimes a crypt is completely filled with this whitish substance, and that it is occasionally met with between the villi. Is it not a farther presumption adverse to their glandular nature, that, although Lieberkühn was so successful an injector, he never mentions their vascularity?

Glandulæ Conglomeratæ seu Brunneri. Different glands, and particularly the glandulæ solitariæ, have been confounded with those of Brunner. Brunner's glands are situated principally in the duodenum. To expose them, it is necessary to separate the serous and muscular coats; when, next to the lower sphincter of the pylorus, in the submucous tissue, a continuous layer of whitish glands, surrounding the whole duodenum, is exposed; their number diminishes towards the end of the duodenum, or commencement of the jejunum, in which situation they are no longer seen. Their form is angular; their size, unless diseased, scarcely that of a hemp-seed; each one is contained in cellular tissue; either end is inserted into the mucous membrane, whence I have been frequently able to draw out their excretory duct. The glands consist of lobules, the ducts of which open into a common excretory duct, and each lobule appears to consist of six hundred acini, so that the whole gland very much resembles a raceme. Hence the glands of Brunner belong to the conglomerate class.

Glandulæ Solitariæ. These are scattered throughout the whole tract of the small intestine, including also the valves. Fewer in its commencement, their number increases in its course, so that, when tumefied by any irritation, they occupy the whole inner surface of the end of the ilium. They are not found beyond the valve of the colon. Elevated by their contents, they may be readily felt. They are scarcely, if at all, prominent on the external surface of the mucous membrane. When magnified, they appear like round vesicles, with a circle of foramina, similar to those of Peyer's glands. The peculiarity of their structure is represented in Pl. III. Fig. 7. When cut, their cavity is found simple, round, and filled with a white substance. These glands are formed, and increase in infants, as the glands of Peyer. They have been confounded with those of Brunner. In almost all the affections of the mucous membrane, these glands are implicated; they are simultaneously affected with the glands of Peyer. The supposed pustules, to which some have ascribed the ulceration in abdominal typhus, are very probably the solitary glands tumified, and, in a careless examination, readily mistaken for pustules; and the more so, if the top has been ulcerated, and an opening is formed. I have never seen the glands of Brunner diseased in typhus. The fluid in the solitary glands contains innumerable globules, such as are found in the corpuscles of Peyer's glands.

Two kinds of glands are found in the large intestine.

Glandulæ Minores Simplices seu Tubulatæ. An innumerable quantity of pores, very evident by the aid of a simple lens, may be seen on the inner surface of the large intestine, which open by a rounded aperture through the mucous membrane. These glands (and, if the crypts of Lieberkühn are so called, the name is not less appropriate here,) increase in size as they approach the end of the rectum. A careful examination of the cæcum reveals nothing but apertures. There is no elevation of the outer surface of its mucous membrane; and hence, as the crypts of the small intestine, they are with difficulty examined. But in the transverse colon, the apertures are extended as sheaths; and, on cutting the extended mucous membrane at a right angle, the parietes of short follicles are brought into view. These same follicles, in the end of the rectum, are extended as long tubes, evident to the naked eye, and investing the whole external surface of the mucous membrane; constituting a peculiar layer between the mucous and muscular coats; the tubes being erect, parallel, and densely crowded. These tubular follicles open into the intestine, their closed extremity being inserted into the submucous tissue. The peculiarly thick and tenacious mucus of the large intestine is doubtless formed by these glands, which are also the source of the mucous, if not of the bloody secretion accompanying piles, and perhaps the true seat of dysentery. In the secreted fluid, I have never detected the round globules, which are so abundantly formed in Peyer's glands.

Glandulæ Majores Simplices. Simple and large follicles are distributed over the whole inner surface of the large intestine, which have been called solitary. They are more abundant where a large quantity of mucus is required, as in the cæcum and processus vermicularis; in the corner of the former of which fæces are liable to be retained. These large glands are less abundant in the colon, more frequent again in the rectum. They consist of a simple cavity, which is contained in a capsule inserted in the mucous membrane. They have been incorrectly confounded with Brunner's and the solitary glands. Their distinction from Brunner's glands will be seen by comparing Pl. III. Fig. 6, with Pl. III. Fig. 8. c. The cavity terminates in a short duct which opens on the surface of the mucous membrane. This membrane at the situation of the gland is slightly elevated, (Pl. III. Fig. 8. D.,) the surface of which elevation, not less than the other parts of the membrane, is perforated by the numerous apertures of the glandulæ minores, which closely surround the capsule. The capsule is equally prominent at the outer surface, where it is surrounded by the submucous tissue, the very minute vessels of which pass to it, and, interwoven with it, constitute an elegant network, which is subservient to the secretion of mucus within its cavity. (Pl. III. Fig. 9.)

Explanation of Plate III.

Fig. 1. A gland of Peyer, taken from the end of the ilium of a man who died suddenly. In order to render the gland more evident, the transparent mucous membrane to which it adheres, separated from the other tunics, is stretched over a black surface.

Fig. 2. The right side of the gland (Fig. 1.) magnified by a simple microscope, shewing the variously formed corpuscles, surrounded by an elegant crown. They are generally round, some are oval. There is no vestige, in the centre of their summit, of an excretory aperture. One or more villi are not unfrequently inserted on the surface of the capsule. The union of two corpuscles sometimes constitutes a single elevation. One alone, and this is extremely rare, exhibits a central depression, resembling an excretory duct. In this gland, as in the other parts of the mucous membrane, are seen the crypts of Lieberkühn and the villi.

Fig. 3. A gland of Peyer, taken from an infant of seven months. The surface is covered with tortuous and connected folds, which disappear in advancing years.

Fig. 4. A magnified representation of the right side of the gland (Fig. 3.) The little corpuscular capsules, deeply seated, give off from their margins long processes or rays, resembling stars. A continuous and tortuous fold limits and constitutes the border of the gland. Similar folds occupy the whole gland and the mucous membrane. The crypts of Lieberkühn appear as white points, their cavities being occupied by their thick secretion.

Fig. 5. The mucous coat of the small intestines, as found altered in inflammations and acute fevers. The glands of Lieberkühn are represented as they are found turgid and distended by a tenacious white secretion, scarcely soluble in water. The portion of membrane here represented is that of an adult cut off by abdominal typhus, and is magnified eighty times.

Fig. 6. A conglomerate or Brunnerian gland, taken from the commencement of the duodenum of a man, and magnified one hundred times. The cellular tunic is removed from the submucous coat in which the gland is concealed, so that three

lobules are brought into view. These lobules consist of smaller rounded acini. The excretory duct on its opposite surface is inserted into the mucous membrane.

Fig. 7. A solitary gland, of the same character as those which are met with in the whole tract of the small intestine. The structure is little different from that of the corpuscles of Peyer; the crown of apertures is also present. The villi are so numerous, that they not only occupy the margin, but cover nearly the whole elevation of the capsule.

Fig. 8. Glandulæ majores simplices. These are found everywhere scattered throughout the whole large intestine.

c. One of these glands taken from the human rectum, divided vertically into two halves. It is unusually large; its round cavity and excretory aperture are exhibited. The glandulæ tubulatæ surround the capsule closely to its summit.

D. A gland viewed at its upper part. It elevates the mucous membrane in the form of a little umbilical prominence, the centre of which is occupied by an excretory aperture. The surface is perforated by very numerous openings, which belong to the glandulæ tubulatæ.

Fig. 9. The vascular structure occupying the surface of the prominent glands, the apertures being omitted. The vessels coalesce more and more towards the top, where many of them form covered nooses.

Fig. 10. Part of a gland of Peyer, taken from the jejunum of a sow. Here each corpuscle is surrounded, not by villi, but by tortuous folds, such as exist in the rest of the mucous membrane.

ART. XIII.—*Transactions of the Provincial Medical and Surgical Association.*—London and Worcester. Vol. I. II. and III., 1833, 1834, and 1835. 8vo. *Plates.*

THESE volumes have been already noticed in several Journals and Reviews; but, as they are the production of an Association recently formed, the proceedings of which are, each successive year, assuming more importance, whether regarded in respect of what has been actually accomplished, or of the promise which it affords of increasing utility, we are induced to give a brief retrospect of the progress of the institution, and a condensed analysis of the Transactions.

The Provincial Medical and Surgical Association was instituted at Worcester, in the year 1832, under the auspices of the venerable Dr. Edward Johnstone, of Birmingham, its first president. Upon this occasion the fundamental rules and regulations of the society were agreed upon, the plan upon which it should be conducted marked out, and the Association completely organized. It has been stated that the Provincial Association took its rise from, and was constituted upon, the model of the British Association for the Advancement of Science. This statement, however, we have reason to believe, is unfounded. The truth appears to be, that the Provincial Medical Association owes its origin, as we are informed by its founder, Dr. Hastings,* to the manner in which the Midland Medical and Surgical Reporter, published at Worcester during the years 1828-32, was supported by the members of the profession resident in the midland counties. The editors of that journal, and especially Dr. Hastings, conceived the idea that it would be practicable to form an institution in the provinces, similar in its objects to the Medico-Chirurgical Societies of London and Edinburgh; and it is to the active, zealous, and unwearied exertions of Dr. Hastings in carrying this idea into operation, that the Provincial Association owes not only its original formation, but also the present high station which it occupies among the established institutions of the country. If we are to go deeper into the question of the origin of this and similar societies, which have lately sprung up in this country and elsewhere, we must look to the recent progress of the human mind in the acquirement of knowledge, and to the spirit of the age in which we live. It is the combined operation of these causes which alone affords the true explanation of the similarity of plan found to exist in institutions, the objects of which are in many respects similar; and it is surely not surprising that, where the intellectual constitution of man is in itself the same, acts under the same circumstances, and is stimulated to exertion by similar wants, there should be a unity of plan as well as of purpose in the proceedings instituted for the supply of these wants. The actual state of science, whether general or medical, and the effect produced upon the minds of those engaged in scientific pursuits by the peculiar constitution of the times, alike demand and favour the co-operative system, and, in the one instance as well as in the other, produced like results,—the formation of associations fitted for the purposes contemplated. These were nearly simultaneous in point of time, but, we believe, perfectly distinct, and at first uninfluenced by each other.

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* The Address delivered at the Anniversary Meeting, &c., p. 94. See Note.

The organization of the Provincial Association seems well calculated to ensure that measure of success which its acknowledged utility, and the importance of the objects contemplated by it, so justly merit. The management of the affairs of the institution is vested in a president, vice-presidents, secretaries, and council. That the prosperity of such societies as this is mainly dependent upon the manner in which the trust reposed in its managers is fulfilled is evident; and it will be found, upon examination, that much of the success which similar institutions have obtained has arisen from the activity and energy manifested by those who have the immediate care of their concerns. In this respect the Provincial Association has possessed singular advantages, in having for one of its most influential officers the same ardent cultivator of medical science to whom it owes alike its origin and advancement. It is not too much to say, that the astonishing progress made by the Association in the short period of time which has elapsed since its formation is mainly attributable to the energy and zeal of its secretary, Dr. Hastings; and it is no small tribute of praise to the council in general, as well as to those especially concerned in drawing up the constitution of the society, that the original plan works so well under their superintendence as to have required no alteration in the fundamental laws and regulations.

The most important objects originally contemplated by the Association are, the assembling together of the members at the anniversary meetings,—the delivery of an address at their meetings,—and the collecting and publishing of valuable information under the form of Transactions. Numerous advantages result from the assembling together of the members of the profession at the anniversaries. In addition to the first general meeting at Worcester, in which the society was constituted, three such meetings have been now held: one in 1833, at Bristol, under the presidency of Dr. Carrick; one in 1834, at Birmingham, under Dr. John Johnstone; and one in 1835, at Oxford, at which the Regius

Professor of Medicine in that university presided. At each of these meetings the gratification experienced from the cultivation of mutual kindly feelings in the members of the profession, from the intermingling with so many of the estimable and eminent men that adorn at the same time that they receive honour from the noble science of which they are the cultivators, and from meeting with those amongst whom former habits of intimacy had existed, and the kindling anew those sympathies of friendship the remembrance of which had been cherished throughout years of absence, but which, but for these meetings, might never again have been called forth, must have come home to most of those who have attended them. At the same time, the tone given by the superior minds thus congregated together for the promotion of objects which all have in view, is communicated in a measure to each member of the Association; for who is there, while engaged in the contemplation of what has been effected by the patient research, industry, and talent of others, and seeing the consideration in which those who have obtained for themselves a lasting memorial of honour in the annals of our science are held, but feels himself excited to renewed exertions in his appointed course, and seeks with fresh ardour to avail himself of the advantages, natural or acquired, of which he may be possessed, or which he can command.

The addresses delivered at the general meetings are well fitted to inculcate and foster these principles. That of Dr. Hastings, read at the opening of the Association, drew the attention of the members to many important points of enquiry upon which the present state of our knowledge is extremely defective; a careful examination and comparison of the facts which we already possess, and the observation of new ones, being requisite for their further elucidation. The addresses of Drs. Barlow and Conolly, delivered at Bristol and Birmingham, and published in the second and third volumes of the Transactions, with that of Dr. Prichard, recently delivered at Oxford, by pointing out the actual progress made during the preceding years, contribute much to the attainment of the same important ends. But these addresses are not only valuable in thus directing our attention to the existing state of medical science, and to the means of remedying such deficiences as may be found; they are also valuable historical records, and, considered in relation to what may be termed the literature of medicine, (if drawn up in future upon the same plan,) will form a series of no ordinary interest.

The papers published in the volumes of the Transactions of the Association are necessarily of various degrees of merit; but, upon a careful examination, we think all of them creditable to the industry and zeal of their several authors, while some are of a very superior description, and in every respect worthy of the Association. The several communications published by the society may be arranged under the heads of, 1st, Addresses and Reports delivered at the Anniversaries; 2d, Reports of Infirmaries, &c.; 3d, Medical Topography; 4th, Medical Jurisprudence; 5th, Miscellaneous Essays and Cases; and 6th, Biographical Memoirs. These divisions are adopted in the volumes of Transactions, although not in the same order of arrangement. Under the first head we have, in addition to the Addresses to which reference has already been made, two Reports read at the Birmingham meeting,—one on the Chemistry of the Blood, as illustrative of Pathology, by the late lamented Mr. JENNINGS, of Leamington; and the other on the Present State of our Knowledge of Anatomy, by Mr. TURNER, of Manchester. It is not our intention to give more than a passing notice of these papers, but we should not do justice to the authors did we omit to direct the attention of our readers to the important observations upon the varied states of the blood in different diseases, more especially in fevers, inflammations, and chlorosis; and to the tables by which they are accompanied in Mr. Jennings' report; and to Mr. Turner's classification of the elementary tissues of the human body.

The Reports of Infirmaries and Dispensaries, we regret to observe, with the exception of one on the State of Disease in the City of Worcester during the year 1832, by Dr. STREETEN, and a valuable statistical document from Van Dieman's Land by Mr. SCOTT, are confined to Birmingham. This is a department of the Transactions of the Association which might be extended with great advantage, and perhaps there is no information which could be communicated more acceptable to the profession, and none more fitting for the Transactions of a Provincial Medical Society, than a series of reports of this description from the physicians and surgeons of the Medical Institutions throughout the country. It is in this and the succeeding department of enquiry, namely, Medical Topography, that the Association can render most valuable assistance, by filling up deficiences in a branch of the science of medicine hitherto but little investigated; and the profession in general are entitled to expect, at the hands of provincial physicians, that they will not allow this important portion of the wide field of medical science to remain unbroken and uncultivated. We trust, therefore, that the future volumes of the Transactions will be enriched with many such communications as those that have appeared in those already published.

That the department of Medical Jurisprudence is also a branch of knowledge which may be advantageously cultivated by the provincial profession, we have evidence afforded us in two interesting communications in the first and third volumes of the Transactions. The first of these is a case of suspected Poisoning by Cantharides, reported by Dr. HASTINGS; the other the celebrated Bristol case of poisoning by sulphuret of arsenic, in which disinterment of the body took place; related and commented upon by Dr. SYMONDS.

The next division, that of Miscellaneous Essays and Cases, occupies the greater portion of these volumes, and combines many very valuable papers. Among the most important of these are, in the first volume, Dr. BARLOW's Essay on the Objects and Modes of Medical Investigation, and the Observations on Strangulated Hernia, by Mr. JAMES; in the second, the Observations on the Effects of Strychnine in some forms of Paralysis, by Dr. BARDSLEY; and those upon Epidemic Influences, &c., by Dr. BROWN; and in the third, an Essay on Puerperal Convulsions, by Mr. INGLEBY. Of the individual Cases, Dr. TRAILL's Case of Hydrocephalus; the Case of Melanosis, by Dr. WILLIAMS; one of Aneurism of the Basilar Artery, by Mr. JENNINGS; and that of Osteo-Sarcoma, by Mr. HETLING, in the first volume: the Cases of Hydrophobia by Mr. GRINDROD; of Uterine Hydatids, by Mr. WATSON; and of Injury of the Heart, by Mr. DAVIS, in the second: and Mr. SELWYN's Case of Extra-Uterine Fœtation, in the third,—are among the most interesting. Several of these are accompanied with beautiful and highly finished lithographic engravings. We have only to regret that our limits will not allow us, upon the present occasion, to enter at length into the merits of these communications, and of the contents of the volumes in general.

The Biographical Memoirs of Drs. **Thackaray**, **Darwall**, and **Jackson**, are ably written, and contain many interesting particulars of the lives of these eminent individuals. The contemplation of the progress towards the attainment of the high honours of our profession by the worthies which adorn its annals is fraught with instruction; and there are few perhaps who can behold successive difficulties perseveringly encountered, and the most formidable impediments surmounted by the struggles of an ardent mind, without feeling stimulated to follow on in the same bright course, and endeavouring, each for himself, to work out according to the measure of his ability and the opportunities afforded him a title to that gratitude, to that imperishable record of honour, which a successful cultivation of the enlarged and beneficent science of medicine cannot fail to secure. The Provincial Association must necessarily contribute much to the development of such a spirit among its members, and is admirably calculated to inculcate liberal views of science, to promote co-operation in the observing and recording of facts, and to foster that noble species of emulation which, divested of every jealous or party feeling, seeks only to confer real and lasting benefit upon suffering humanity. That the Association is in accordance with the spirit of the times is abundantly evidenced by the success which has attended it. In the short space of four years, it numbers 567 individuals of the medical profession among its members, including a large proportion of the most eminent physicians and surgeons residing in the provinces: it has been received with honour of no ordinary kind in the most ancient seat of learning in our land; the diploma of the university having been conferred upon two of its members on the occasion; and it has only now to proceed in the same course of usefulness, so auspiciously marked out in the commencement of its labours, to ensure that measure of prosperity which the high importance of its objects so justly entitle it to attain.

The recent meeting at Bury St. Edmund's of members of the profession in the Eastern counties, desirous of constituting themselves a branch of the Association, and offering themselves as fellow-labourers in the same field, is to be regarded as affording additional proof, were such wanting, of the activity, energy, and zeal, for the promotion of their science, which characterizes the members of the medical profession; at the same time that it is a valuable testimonial of the consideration in which the Association is generally held in this country.

Art. XIV.—*Observations on the Action of the Broom-Seed in Dropsical Affections.* By Richard Pearson, m.d., late Physician to the Birmingham Hospital, &c.—London. 8vo. 1835. Pp. 15.

In this very diminutive tract Dr. Pearson recommends that the Broom-seed should be substituted for the decoction, as the leaves and root are apt to become mouldy or worm-eaten; whereas the seeds, if gathered when perfectly ripe, and in dry weather, may be kept in stoppered bottles for an indefinite length of time without having their medicinal properties impaired. He recommends the following tincture, the dose of which is one or two drachms three times daily, in water aromatized with tincture of cardamoms, ginger, or cinnamon, and in certain cases three drachms may be given every fourth hour.—℞. Spartii juncei seminum contusorum, ℥ij. Spiritûs tenuioris, ℥viij. Macera per dies decem et cola.

If it produces diarrhœa, five or six drops of tincture of opium may be added to each dose. Due dilution promotes its effect, such as a solution of cream of tartar in water, or, in old gouty subjects, lemon-peal, tea, or weak ginger tea. When dropsy is attended with great debility, this medicine may be combined with quinine and iron. Dr. Pearson considers that the Broom is superior to most other diuretics, and particularly digitalis and squill, from its improving the appetite and invigorating the whole system; whereas the others can only be given for a limited time, as they impair the appetite and digestive powers.

In dropsy depending on visceral disease, Dr. Pearson thinks it is useful in lessening the quantity of fluid, without debilitating the patient, although it cannot remove the disease. He has not tried it in dropsy following scarlatina, but finds it is not adapted to hydrothorax attended with thoracic inflammation, nor to ovarian dropsy. Five cases are given which prove its diuretic action. As it is frequently inconvenient or impracticable to procure the fresh broom-tops, if the substitute which Dr. Pearson has proposed stands the test of farther experience, it will be a useful addition to our diuretic medicines. This little work was Dr. Pearson's last contribution to medicine, of which he was many years ago a distinguished cultivator. His death took place very recently, at a somewhat advanced age.

ART. XV.—*On Perforation and Division of Permanent Stricture of the Urethra by the Lancetted Stilettes: with Observations on the Nature and Treatment of Spasmodic and Inflammatory Stricture, and in various other Urethral Affections.* By R. A. STAFFORD, Surgeon to the St. Marylebone Infirmary, &c. &c. *Third Edition.*—London. Longman, 1836. 8vo. pp. 324.

OUR surgical brethren are much indebted to Mr. Stafford for the industry and ability with which he has investigated the mode of treating permanent strictures of the urethra by the lancetted stilettes. In this third edition of his work, he gives additional proofs of its efficacy and safety, and of the rapidity and permanency of the cure effected by it. We have seen this practice adopted in several cases, and are quite prepared to admit that it is not only applicable, but very useful, in certain cases of permanent stricture where the life of the patient is in danger, and where no other means can be employed: but we cannot admit, with Mr. S., that it is only "an *apparently* difficult mode of treatment." Practice may have, and no doubt has, given to him great dexterity in the use of the lancetted stilettes; but, in the hands of surgeons in general the safe use of the instrument would be by no means so certain. We remember to have heard the much lamented Dupuytren observe, in speaking of the lancetted stilettes in the treatment of permanent stricture of the urethra, that the instrument would be perfectly safe "s'il avait des yeux!" and we confess we have felt this irremediable deficiency when we have seen it employed. In Mr. Stafford's book every necessary instruction will be found both as to the distinction of the cases in which his treatment is applicable and as to the manner of carrying it into effect.

ART. XVI.—*A Treatise on Hydrocephalus, or Water on the Brain; with the most successful modes of Treatment.* By WILLIAM GRIFFITH, Lecturer on Midwifery and the Diseases of Women and Children, at the Westminster School of Medicine, &c. *London,* 1835. 12mo. pp. 86.

WE are compelled by an imperious sense of duty, although with unfeigned reluctance, to speak of this work in terms of disapprobation. We are altogether unacquainted with the gentleman who is the author of it, and we may truly, and certainly without any disparagement, say that even his name was unknown to us, until we saw it on his title-page. And yet, we may be permitted to add, as well for ourselves as in behalf of critics generally, that if his work meets with a different reception from that which he could desire, he has to thank himself alone for this; inasmuch as its publication is an act purely gratuitous on his part. The subject of which it treats is familiar to every practitioner, although certainly much yet remains to be done, both for its pathology and treatment; it contains not, nor does it profess to contain, one particle of novelty in doctrine or practice; there exist numerous treatises on the same disease much fuller and more accurate, and accessible to every reader: and assuredly, the work displays no indication of that irrepressible spring of genius, that "divine thrusting-on," which often obliges the young enthusiast to make a premature display of his powers, ere yet chastened by experience.

The faults of this work are indeed so numerous, its merits so insignificant, that we do not doubt but that its publication will hereafter be a subject of regret to its author, when maturer experience and a cooler judgment (for we presume, although we know it not, that Mr. Griffith is still young,) have led him to form a juster estimate of what is required of those who step forth from the privacy of life as professed guides of their brethren in a difficult route.

Compared with many—we had almost said with all previous treatises on hydrocephalus with which we are acquainted in English, French, or German, we must say that Mr. Griffith's is in the highest degree meager in the enunciation of well ascertained facts relative to the disease; it is full of tame truisms, gratuitous assumptions, false pathology, and illogical inferences; and even its practical precepts are by no means always judicious. In regard to its literary character, we must say that its plan is confused, that its materials are ill-arranged, and that its language is far from accurate.

And yet we are gratified to be able to say, in parting with Mr. Griffith, that we here and there perceive in his little work the indications of a talent for observation and practical application which probably renders him a skilful practitioner, and may well entitle him to the confidence of his friends. The faults of his book are also, perhaps, as much the consequence of that contagious rage for premature publication, for which the members of our profession have been for some years past unhappily distinguished, and of that careless and vicious style both of thinking and writing, which the false lenity of medical criticism has tended to foster, as of any defect either of talent or practical experience in the author. And we shall be far from surprised, if his next appearance before the public should claim for us a meed of approbation as sincere, and far more cordial than the censure which the overmastering sense of public duty has now wrung from us, reluctantly and painfully.

ART. XVII.—*The Cyclopædia of Anatomy and Physiology.* Edited by ROBERT B. TODD, M.B. Parts I. to IV.—*London*, 1835. Royal 8vo. pp. 416.

FROM the editor's address prefixed to the first part of this work, we learn that "it is intended to embrace the whole of the sciences of Anatomy and Physiology, these terms being used in their largest sense, as far as regards the animal kingdom." In the filling up of this plan, as far as the Parts hitherto published enable us to form a judgment, the several essays would seem naturally to fall under four sections or departments, viz. Anatomy, Physiology, Comparative Anatomy, and Animal Chemistry. The anatomical section embraces papers upon general, descriptive, surgical, and morbid anatomy; and it is a feature of no inconsiderable merit in the original plan drawn out by Dr. Todd, that it admits of placing this most important branch of natural science in a light so varied, and at the same time so practically useful. Anatomy forms the groundwork, upon a competent knowledge of which many other branches of scientific enquiry must rest, and is the only sure foundation upon which all medical acquirements can be based. It is therefore a subject which will admit of our dwelling at some length upon the several articles relating to it in the important work before us; but various considerations compel us to deviate from our original intention on this point; and, among others, the desire to draw the attention of our readers to the admirable papers upon Comparative Anatomy. It would, however, be unjust entirely to pass over the articles upon Human Anatomy without giving the due meed of praise to their respective authors; and, if there is not much originality displayed in some of these essays, (which, indeed, from the nature of the subject, could scarcely have been expected,) still we are bound to admit that they are in general careful and judicious digests of the present state of our knowledge. The essay of the Editor upon the Abdomen, and that of Dr. CRAIGIE upon the Adipose Tissue, are good examples of the manner in which the subjects belonging to regional and general anatomy are treated; and the Dublin School of Anatomy will not lose any of its well-earned reputation by the manner in which the gentlemen belonging to that School have treated the several articles allotted to them. In the physiological department also, which we must not altogether pass without notice, we find an article, of a very high standard of merit, upon Absorption, by Dr. BOSTOCK, which affords an excellent compendium of what is known upon the subject, although perhaps scarcely allowing its due weight to the theory of imbibition. There is also a good account of Asphyxia by Professor ALISON, the chief defect of which is a very unusual one—its brevity. Dr. SYMONDS's article, AGE, is also excellent.

The study of comparative anatomy, and of the relations which it exhibits with anatomy (properly so called), is every day becoming more important; and the diligent investigation of the facts presented by this branch of scientific enquiry is calculated to throw light upon many of the dark places which yet remain to be explored in man's organization. The development of the intimate structure and functions of organs, which, in the more elaborate forms of the higher ranks of existence, appear complicated and obscure, is materially facilitated by contemplating the same organs and the same functions in beings of a more simple construction. Nature herself here becomes our handmaid in the unravelling of the intricate web, and thus displays many of her most secret processes to our view.

The papers upon Comparative Anatomy in these four parts of the Cyclopædia are, a General Sketch of the Animal Kingdom, by Dr. GRANT; a brief notice of the *Articulata* and the *Acrita*, by Mr. OWEN; the articles *Acalephæ*, *Annelida*, *Arachnida*, and *Amphibia*, by Dr. COLDSTREAM, Dr. MILNE EDWARDS, M. AUDOUIN, and Mr. T. BELL; and an elaborate memoir upon the *Aves*, by Mr. OWEN. These papers are all possessed of considerable merit. Dr. Grant's sketch affords a clear and concise introduction to the subject generally, an outline which is well filled up, as far as the work has hitherto advanced, by the authors of the articles devoted to the more particular consideration of the several classes. Dr. Audouin's account of the Arachnida is especially interesting, and it is to this that we propose upon the present occasion more particularly to direct our attention.

The Arachnidans are divided by Latreille, from certain peculiarities in their organs of respiration, into *Pulmonaries*, or those provided with pulmonary sacs, and *Trachearies*, or those breathing by tracheæ. The first of these divisions, the *Arachnida pulmonaria*, embraces two great families,—the *Araneidæ*, or spiders, admirably arranged into genera by M. Walcknäer; and the *Pedipalpi*, or scorpions. The second division, or Trachiaries, including the *Acaridæ*, or mites, and many other anomalous species, has been recently arranged by M. DUGES; but has hitherto been very imperfectly studied, notwithstanding that the late researches upon one of this tribe, (the *Acarus scabiei*,) by M. Raspail and others, demonstrate its importance both in a scientific and in a practical point of view.

M. Audouin, after giving a brief summary of the natural characters distinctive of the class, and the classification now most generally adopted by zoologists,—viz. that of Latreille,—proceeds to describe, 1st, the external covering, or tegumentary system; 2d, the digestive system; 3d, the respiratory system; 4th, the circulating system; 5th, the nervous system; 6th, the organs of secretion; 7th, the generative system: concluding with a highly interesting account of the gradual development of the ova. We cannot attempt to follow M. Audouin into the numerous and important details which he has here brought before us, although the information to be derived from them is by no means confined to the class of beings which is the more especial subject of the essay. The observations upon the digestive apparatus, however, afford some peculiarly interesting facts, not only in respect to the Arachnidans themselves, but also in relation to the great question of assimilation throughout the whole animal kingdom. It is well known that, among the Mammalia and higher ranks of animals, the intestinal canal is considerably longer in those whose aliment is derived from the vegetable kingdom, than in those which are carnivorous; but, when the same peculiarity is found to prevail in other ranks of the animal kingdom, and among beings of very different conformation and habits, it affords us an insight into one of the general laws of relation existing between the organized animal structure and its corresponding functions, which, although not without its exceptions,—not without its residual phænomena requiring to be further investigated, and still remaining to be accounted for,—must be regarded as a most important step attained in the application of the rules of inductive philosophy to natural science.

The *Tegenaria domestica*, or common house-spider, affords a striking exemplification of the preceding observations among the Arachnidans, as will be seen from the annexed figure, given in illustration of M. Audouin's paper.

"The intestinal canal of the Arachnidans," says M. Audouin, "is always short, and is never disposed in convolutions, as in certain herbivorous insects. This disposition is in accordance with their predatory habits, and confirms the general rule, (but which, to our knowledge, is not without many exceptions,) that the intestinal canal is longer in herbivorous than carnivorous animals. In the spiders (Araneæ), and we may take the common species (*Tegenaria domestica*) as an example, the alimentary canal (*fig.* 82) communicates with the mouth between the maxillæ (*a a*,) by an œsophagus, rather short and of a delicate texture, (*b*.) This terminates in four sacs (*c*), which M. Treviranus calls stomach, but which, in our opinion, merit the name of gizzards: the digestive tube then continues, as a straight narrow canal (*d*), of moderate length, which dilates (*e*) and adheres, by its parietes, to a kind of epiploon filled with adipose granules (*f*). Posteriorly the dilated part becomes stronger in texture, insensibly contracts (*g*), then undergoes a second dilatation (*h*), before it opens into the rectum (*i*)."

The vessels, *k*, *k*, *k*, *k*, terminating near the rectum, are the biliary vessels of Treviranus, to which we shall presently revert.

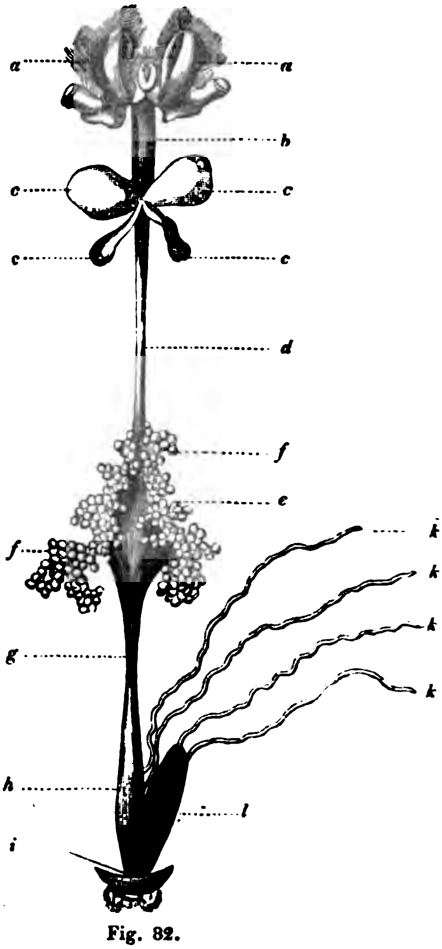

Fig. 82.

Dr. Grant has pointed out the same peculiarity in the *Insecta*.

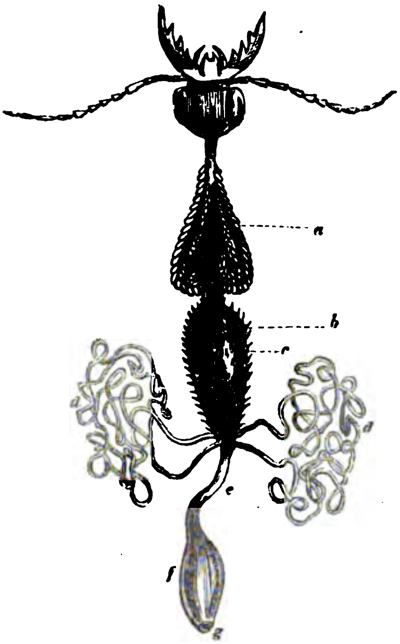

Fig. 37.

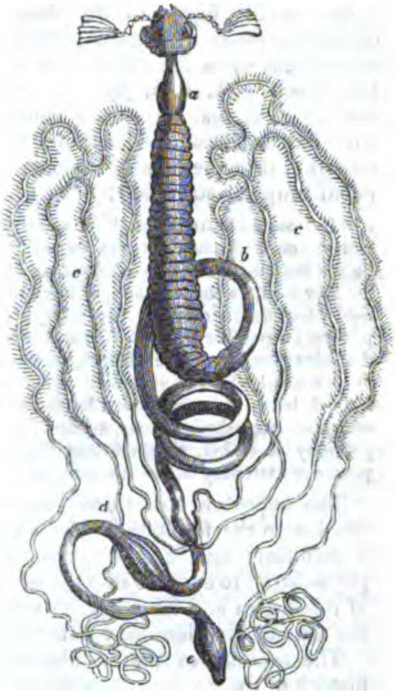

Fig. 38.

"In the adult state," he observes, "the masticating organs and the digestive apparatus vary much according to the kind of food in the different species, as is seen in comparing the alimentary canal of a carnivorous *cicindela campestris* (*fig.* 37,) with that of a phytophagous *melolontha vulgaris*, (*fig.* 38.) In the carnivorous insect (*fig.* 37,) the intestine passes nearly straight through the body, with few enlargements in its course, and the glandular organs have a simpler structure. The œsophagus passes down narrow from the head, and dilates into a wide glandular crop (*a*), which is succeeded by a minute gizzard, and this is followed by a chylific stomach (*b*, *c*), which is covered like the crop with minute glandular cryptæ or follicles. At the pyloric extremity of the chylific stomach, the liver, in form of simple biliary ducts, pours its secretion into that cavity by two orifices on each side (*d*). The short small intestine (e) opens into a wide colon (*f*), which terminates in the anus (*g*). In the vegetable-eating insect, (*fig.* 38), the alimentary canal is more lengthened, convoluted, and capacious, with more numerous dilations, and the glandular organs are more developed. The crop (*a*) of the *melolontha* is succeeded by a minute rudimentary gizzard, and to this succeeds a long and sacculated glandular or chylific stomach, which becomes narrow and convoluted below, and terminates in a small pyloric dilatation, which receives the four terminations of the biliary organs. The succeeding part of the intestine is also convoluted, and has three enlargements in its course to the anus (*e*). The liver (*cc*) is here of great magnitude, and has its secreting surface much extended by the development of innumerable minute cæca from its primary ducts."

The gasteropoda afford further illustrations of the same law, as may be seen by comparing the intestine of the carnivorous *Buccinum undatum* with that of the *Patella vulgata*, which feeds on marine plants.*

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* See figures 41 and 42, and Dr. Grant's observations upon them, Part II. p. 113.

But in the figure of the internal anatomy of the house spider we observe another important peculiarity of conformation, which tends to throw light upon the biliary function. If, as M. Treviranus concludes, the vessels *k*, *k*, *k*, *k*, *fig.* 82, correspond to the biliary vessels of the Insecta *d*, *d*, *figs.* 37 and 38, (and for our own part we cannot but agree with that distinguished physiologist,) then it would appear, as M. Audouin remarks, that the animal referred to is indeed destitute of an intestinal canal properly so called:

> "If," says M. Audouin, "the observations of M. Treviranus are correct, and the four vessels which he describes are really analogous to the biliary tubes of insects, we do not hesitate to consider all the part which precedes and is intermediate to them and the four sacs, as the stomach, or chylific cavity. It would thus result, that the *Tegenaria domestica* would be deprived of an intestine, properly so called; and would possess no part destined to transmit along a greater or less extent the *residua* of the digestive process. And, indeed, such residua must necessarily be very inconsiderable in an animal which is sustained by juices, and these already animalized. We are, indeed, led to this conclusion by the structure presented by the hemipterous insects, which are nourished, like the spiders, by suction, and which also have the intestines, properly so called, so short that the biliary vessels, which always accompany the posterior extremity of the stomach, are found close to the anus."

The importance of these conclusions, assuming them to be just, in relation to the functions which the liver performs in the animal economy, is manifest; and it is a subject which well merits the attention of the physiologist to enquire into the peculiarities of configuration and structure of this organ and its ducts, as exhibited in the several tribes into which the animal kingdom may naturally be divided.

The account of the circulatory system of the Arachnidans, and the history of the gradual development of the ova, are peculiarly interesting, especially the latter, which admirably exemplifies the patient observation combined with a spirit of enlightened and ingenious research of the author. We should lament to be compelled to confine our researches to this brief notice, were it not that the article itself is readily accessible to all who are desirous of information upon the subject. We trust that the succeeding articles on other classes of the animal kingdom will be written in the same clear and comprehensive manner as those now before us; and there is little doubt but that the whole work will then supply an important chasm in English Medical Literature. It is to be wished, however, that Dr. Todd had embraced within his plan a summary of the peculiarities of vegetable structure and vegetable physiology. That much light is capable of being thrown upon the structure and functions of animals from investigating the organs of plants, is evident from the researches of MM. Dutrochet and Raspail; and the department of Animal Chemistry would not have lost interest by being considered in connexion with and in relation to the analogous products afforded by the vegetable kingdom. In reference to this latter subject, viz. Animal Chemistry, we cannot but observe that the very brief notice of the animal acids by Mr. Brande is meager and unsatisfactory. Some of these are, we find, to be excluded because they have the misfortune to occupy, not a neutral ground between the animal and vegetable kingdoms, but a sort of border territory appertaining to both. Now if the vegetable chemist is to proceed upon the same principle, these hermaphrodites must remain without a local habitation even in the wide extended and comprehensive domain of natural science; and the oxalic, benzoic, acetic, and other acids, find no resting place. Some general views respecting the nature of the acids which are of animal origin, with a reference to their individual properties, might have been given, and a detailed account of those more strictly belonging to the animal kingdom entered into, either under this head or under the chemistry of the animal products more immediately connected with them.

Considering the objects and plan of this work, the knowledge and industry of the Editor, the splendid array of talent combined in its construction, and the elegant manner in which its mechanical part is executed, we cannot but regard it as one of the most important and valuable ever produced in this country. It has its defects, and we have pointed out some of them; and we trust the editor will not refuse, in this early stage of his labours, to profit by any good advice that may be tendered to him by friendly and impartial criticism, whether public or private.

Art. XVIII.—*Practical Anatomy of the Nerves and Vessels supplying the Head, Neck, and Chest: intended as a Guide for the Use of Students in the Dissection of those Structures.* By E. Cock, Demonstrator of Anatomy at Guy's Hospital.—*London*, 1835. 12mo. pp. 242.

This publication bears alike in its plan, in its descriptions, and in the extent to which these have been carried, the marks of an author practically acquainted with the subject of anatomical demonstration, and must prove a valuable assistant of the student in the manual part of his anatomical studies, for which it is exclusively intended. Those who have experienced the inconvenience of examining regions of the body, (for descriptions of the parts contained in which they have been obliged to refer to different pages of indifferently indexed anatomical works,) will fully appreciate the facility which is afforded to the study of dissection, by a book which guides them from the external to the deeply-seated parts, with descriptions confined to those portions of vessels and nerves, with their relations, which come successively into view; and although it is not unfrequently a necessary consequence of the plan Mr. Cock has followed, that small portions of such vessels and nerves can alone be exposed at the same time, and a frequent recurrence to the same in another part of their course is consequently required, still this objection is fully answered by the author, by the remark, that the student, in the descriptive method generally followed, finds the part which he has been dissecting the reverse of that which he has so carefully studied in his book; and that, in order to accommodate the one to the other, he must begin at the end of the chapters, and read backwards.

Another recommendation of the order here adopted is, that "every important part contained in the head, neck, and chest, may be seen during the dissection of a single subject;" a point which the young student would find it very difficult to ensure by following the directions of any book of anatomical demonstration with which we are acquainted. A knowledge of the bones, muscles, and viscera, in relation with, and supplied by, the nerves and vessels which are described, is required previous to the use of the present work. Our chief object will be to illustrate the plan; as of the anatomy, considered apart from its arrangement, little will require to be said.

We will suppose the skin of one side of the neck and face, with the platysma, to be removed; the parts exposed are the superficial branches of the cervical plexus; the termination of the accessory nerve; the external jugular vein; above, the ramifications of the portio dura and the external terminations of the fifth pair. The removal of the cervical fascia exposes in front the anterior triangular space of the neck, with its contents; part of the lingual nerve with its descending offset; another portion of the accessory nerve; the facial vein, the sheath of the carotid and its contents; the origin and course of its branches through the triangle, and such of them to their terminations as may be followed without interfering with the regular course of the dissection. Thus, for example, the lingual, occipital, ascending pharyngeal and internal maxillary arteries, are traced through but a small portion of their course; while the description of the superior thyroid, facial, sterno-mastoid, posterior aural and temporal, is almost completed. The next step of the dissection (and the best method of exposing the parts is very well described,) is the examination of the remaining course of the lingual artery and nerve with the gustatory nerve; and, subsequently, the exposure of the internal maxillary artery, with the superior and inferior maxillary nerves. The removal of the lower jaw and muscles connected with the styloid process exposes the ascending pharyngeal artery, the internal carotid and jugular vein, with the nerves emerging at that part from the base of the skull, the terminations of some of which have already been traced. The remainder of the occipital artery is necessarily left to a subsequent stage of the dissection.

It is unnecessary any farther to illustrate the plan which has been followed, in the same manner and with equal clearness, with regard to all the vessels and nerves of the head, neck, and chest. The anatomical descriptions are all concisely and clearly written.

There is one point into which the author might perhaps have occasionally entered with advantage rather more into detail,—the frequent varieties in the origins of arteries. Students are occasionally much at fault, on finding exceptions in the subject which they are dissecting to the standard rule; and a specification of these exceptions is often a great assistance. Thus, in describing the thyroid axis, as most generally the source of four branches, and qualifying this by a statement that there are many exceptions to this rule, a few lines might have been judiciously added, specifying those exceptions. It might be considered hypercriticism to apply a similar remark to the distribution of the ophthalmic artery, but the occasional origin of a vessel supplying the parts within the orbit, from other than the ophthalmic artery, and the variations in the source of the branches generally derived from the main trunk, but which sometimes originate in its secondary branches, sometimes perplex a young student in that dissection. We prefer Cloquet's division of the internal maxillary artery to that adopted by Mr. Cock; as, without extending the limits of the spheno-maxillary fossa beyond those which are properly assigned to it, this vessel can scarcely be said to detach from that part the branches described. Mr. Cock appears to have been indebted to his own observation for his anatomy, and it is perhaps but a proof of the want of uniformity in the distribution of vessels, that he has spoken of the facial artery as passing through the substance, instead of on the surface of the submaxillary gland, or that he has mentioned but one occipital sinus. It can, however, scarcely be correct to speak of the longitudinal sinus as opening into the right and left lateral sinuses, as the torcular herophili is an intermediate receptacle between these vessels.

The facial artery is also mentioned as lying between the masseter and levator, instead of the depressor anguli oris; and the carotid artery within the skull as situated external to the ophthalmic nerve.

The departure from the common numerical arrangement of the cerebral nerves, describing as distinct pairs what are commonly termed the seventh; and, instead of including the par vagum, glosso-pharyngeal and spinal accessory nerves as the eighth pair, separating the first two, as the ninth and tenth, and the third, as no cerebral nerve at all, is certainly more consistent with anatomical accuracy.

ART. XIX.—*Guy's Hospital Reports.* No. I. *January*, 1836. Edited by GEORGE H. BARLOW, M.A. Trin. Coll. Cam., Inceptor Candidate of the Royal College of Physicians; and JAMES P. BABINGTON, M.A. Trin. Coll. Cam., Member of the Royal College of Surgeons.—8vo. pp. 188. *London*, 1836.

St. Thomas's Hospital Reports. By JOHN F. SOUTH, Assistant Surgeon. No. II. *January*, 1836.—8vo. pp. 123.

THE medical public, it will be perceived, is likely to be abundantly supplied with authentic clinical reports. Both of the above-named publications contain several instructive cases. The first number of the Reports of St. Thomas's Hospital was noticed in our last, and the second is at least of equal merit. The first number of the Guy's Hospital Reports is introduced by an academical exercise upon medicine and medical experience, from which however we extract the following interesting account of the institution from which the Reports proceed.

> "Guy's Hospital contains within its wards a constant succession of above five hundred patients: thus amounting in the year to between three and four thousand; not admitted at the recommendation of governors, but selected by the physicians and surgeons, as those whose diseases are the worst and most acute, or the most interesting and instructive, amongst a concourse of patients who present themselves upon the regular days of admission.
>
> "There are also in this hospital two spacious wards; the one containing twenty-three males, and the other eighteen females, set apart for the purpose of clinical instruction. Into these wards are received such patients as the clinical physician may deem most fit for the purpose of illustrating disease. There is also an eye-infirmary, consisting of two wards, containing each about fourteen beds: and a portion of one of the wards is appropriated to females labouring under uterine disorders, and who are selected by the obstetric physician as those whose cases seem most available for the purpose of clinical instruction in this highly interesting class of diseases. The annual number of accidents admitted amounts to nearly six hundred; and thus are afforded opportunities of witnessing the various forms of injury, to which the different working classes in this metropolis must be continually exposed; and these, as well as cases occurring amongst the other surgical patients, necessarily give rise to very many and various operations. Very curious and highly-instructive forms of disease are, moreover, to be found amongst the out-patients: who, to the number of no less than fifty thousand, in the course of the year present themselves, upon stated days, to be prescribed for by the physicians and surgeons: and there is, connected with the hospital, a lying-in charity, by means of which, about five hundred women are annually delivered at their own habitations.
>
> "From these various departments, then, of this vast and complete institution, every form of disease, which can occur in this climate, is from time to time presented to our attention, and may be watched through its successive stages, until it is either brought to a successful issue or terminates in death. The lesson, however, that may

be learned from every fatal case of disease does not end with the life of the sufferer, the most important facts being often brought to light by examination after death; accordingly, facilities for pathological investigation are not wanting in this extensive institution: not only are inspections publicly performed, but reports are made, both of the appearances observed, and of the most prominent symptoms which occurred, during life. These reports are placed in the museum, not unfrequently accompanied by preparations of the parts to which they refer.

"Of this museum it is needless to speak at present, as some of our future pages will be expressly devoted to it: suffice it, therefore, to say, that although in years it may be considered in its infancy, yet, from the number and variety of its preparations, it might be supposed to be in its maturity." (*Introduction*, p. ix.)

Among the contributors of cases to this number are Dr. Bright, Dr. Addison, Sir Astley Cooper, Mr. Key, Mr. Morgan, and Mr. Bransby Cooper; and it is almost superfluous to say that the cases are, generally speaking, well selected and well related. But we cannot forbear to express our opinion that *one* hospital journal would be better than the number which may now be expected. *One* such journal, consisting of cases selected from *all* the hospitals, would be useful to innumerable readers. *Many* such journals must necessarily be made up of materials of variable value, and the business of selection will devolve on the other periodicals; by which means the circulation of the Hospital Reports will not receive adequate encouragement to ensure their continuance. Common cases, illustrated by plain practical remarks, are chiefly useful to the student in the hospital wards. The readers of Hospital Reports look for the most important cases, or classes of cases, and expect appropriate commentaries, and these would be best supplied by a general Journal of Clinical Reports, or Hospital Journal, to which both town and country hospitals might be invited to contribute. We fear we shall be considered very much prejudiced if we again allude to the frequent imperfection of the Clinical Reports in the London schools. It is curious that the first case in the Guy's Hospital Reports should present a striking example of this, even from Dr. Bright; whose high and deserved reputation will not suffer from our pointing out this instance of negligent reporting. The case is one of simple fever, protracted by irritation of the bowels, and attended by relapse. The subject, a youth of fourteen, had been ill fourteen days; and on admission is mentioned as being "greatly oppressed with symptoms of acute fever: skin very hot, and covered with miliary eruption: pulse 130, feeble, but sharp. He said he had *no* headach, but had a tendency to wander. His bowels were relaxed, and there was some tension of the abdomen: tongue dry, brownish in the centre, white at the edges: no cough." This is meager enough, and, we suspect, not fully correct; for two days afterward, the daily report says "abdomen less tender," although no tenderness had before been mentioned. Nor are the subsequent daily reports sufficiently full in such a case as fever, in which even minute symptoms are important. Dr. Bright's observations are practical and useful. So also the case of poisoning in the first page of the St. Thomas's Reports is very deficient in particulars. Still, with such large hospitals at command, and the assistance of so many physicians and surgeons of talents and large experience, it is evident that a quarterly hospital report from St. Thomas's or from Guy's must always be rich in clinical facts, to which practitioners in every part of the country will refer with interest.

ART. XX.—THE FOREIGN JOURNALS. No. II.

GERMAN JOURNALS.

7.—*Magazin für die gesammte Heilkunde. Herausgegeben* von J. N. RUST.—*Berlin*, 1836.

Rust's Magazine of Medical Science.

THE name of the Editor of this magazine, and of the magazine itself, must be familiar to all who have attended to medical literature during the present century. If not the oldest of the existing journals, it is among the oldest, and is one of the best known and most worthy of being known. It is, like most of the German journals, of a comparatively small size, being small 8vo., and each number containing from ten to twelve sheets, or from 160 to 190 pages. It appears at no fixed periods. Three numbers constitute a volume, and cost three dollars. The number now before us, the first of 1836, commences vol. xlvi., and consequently is the 138th, reckoning from the beginning of the series.

This journal is composed chiefly of original memoirs in all the departments of medicine, and contains also a small department under the title of *Miscellanies*, which gives brief articles of medical intelligence and other notices of temporary interest. Among these we observe frequent official documents of government referring to medical affairs. On the wrapper of this journal is the following notice, of which we will only remark that it refers to a practice common in Germany, and which tends to account for the general comparative goodness of the original communications found in the periodical publications of Germany. If it were adopted by the journals in this country, we should find their pages less occupied by accounts of single and isolated cases, which are so frequently of little or no value. "Communications to be addressed, &c. Every paper judged proper to be admitted will be inserted as soon as possible, and an adequate *honorarium* therefor, be paid immediately after the completion of the volume, either in cash or by order, according to circumstances, or the wish of the party. The copyright of the article, after the expiration of one year, belongs to the author." The great value of many of the original communications in this Journal would seem to indicate that these *honoraries* are effective incitements to even the most distinguished men to communicate, through this medium, the results of their observation and experience. Why should not Original Communications be paid for in England, as well as Critical Articles?

8.—*Neue Zeitschrift für Geburtskunde. Herausgegeben* von BUSCH, D'OUTREPONT, *und* RITGEN.—*Berlin*, 1836.

New Journal of Midwifery. Edited by VON BUSCH, &c.

The duration of this Journal has not as yet belied its title of new, as it has only reached its ninth Number. It is, however, only a new series of a Journal of the same name, with the exception of the initial word, which commenced ten years since, and had reached its seventh volume, when it was superseded by the present publication; D'Outrepont having succeeded Mende in the co-editorship. It is of the usual 8vo. form, contains 160 pages in each number, of which three constitute a volume, of the price of three dollars. It does not appear oftener than four times in the year. It is exclusively, or almost exclusively, devoted to obstetrical subjects, and contains many papers of great value.

A small portion of each number, under the head "Literatur," is set apart for notices of books; but these are for the most part scanty and unsatisfactory. The Journal, however, is a very valuable one.

9.—*Zeitschrift für die gesammte Medicin mit besonderer rücksicht auf hospitalpraxis und ausländische Literatur. Herausgegeben* von J. F. DIEFFENBACH, J. C. G. FRICKE, *und* F. W. OPPENHEIM. —*Hamburg*, 1836. 8vo. Heft I. II., pp. 136, 152.

Journal of Medicine in general, with particular reference to Hospital Practice and Foreign Literature. Edited by, &c.

This is quite a new journal, having commenced only with the present year. It is, however, to be regarded as a continuation of the well known *Magazin der Ausländischen Literatur der Gesammten heilkunde*, so long edited at Hamburg by Drs. Gerson and Julius, only under a new title and management, and with some modification of the original plan. It is published monthly, and is neatly got up, with good paper and a clear Roman type. Like its predecessor, it is chiefly devoted to the task of making known FOREIGN MEDICINE to the profession in Germany, by means of ***Reviews*** and ***Bibliographical Notices*** of foreign books, ***Selections from Foreign Journals***, and ***Foreign Correspondence***; but it also contains ***Original Memoirs***. The plan of this journal is excellent, and, judging from the execution of the first two parts now before us, and from the learning, talents, and professional eminence of the distinguished Editors, we venture to prophecy that it will be one of the most valuable and successful journals published in Germany. We recommend such of our book-writing friends in this country as are desirous of seeing the judgment of enlightened foreigners on their productions, to take in this journal, and also to forward to their agents in this country such works as they are desirous of having noticed by them. Owing to the comparatively small proportion of original memoirs, we shall derive from it fewer materials for our Third Department than from other journals of really inferior merit.

ITALIAN JOURNALS.

4.—*L'Eclettico di Adone Palmierj, Giornale di Medicina, Chirurgia, Economia Domestica, Arte Industriale, Agricoltura, &c.—Roma.* Fol.

The Eclectic of Adone Palmieri, Journal of Medicine, &c.

This is a new journal, the first number having appeared only in September last. It is a weekly publication, of four small folio pages and large print, and probably contains altogether as much as two pages of the *Lancet*. It is published every Saturday, and costs fifteen *paoli* per annum. It is edited by the Professor (Palmieri) whose name it bears. This is truly a most jejune publication, made up chiefly of trifling extracts, or original cases more trifling still. Such a work could not live a month in any of the northern countries, and we hope, for the honour of Italy, it cannot long survive in Rome. We are tempted to translate a portion of a case entitled "A most severe disease happily cured," from No. 9, 31 Oct., as a specimen of the strange bombast in which the Italians permit themselves to indulge, even in such sober matters as those of physic; and our translation shall be as literal as possible, in order to preserve something of the smack of the original.

"CASE. 'It is better that I kill myself with this sharp poignard, since intolerable are become the dire palpitations of my oppressed heart!' Such were the desperate expressions which the groaning Count di —— was pouring forth with hoarse voice, as I unexpectedly entered his chamber. His countenance was shrunk and discomposed, his look was wild, his bosom bare, his hair dishevelled, his beard unshorn. He reclined beside a table, the *left* elbow resting on it, and the hand of the same side supporting his head. Without appetite, he passed his nights unsleeping, his bowels burning and his brain boiling; and by day he busied himself with various unconnected matters, in a sort of fury. He was hastening to the tomb; talked only of lugubrious objects, of horrid spectres, and disgusted with his bitter fate, he expired from his lungs *billions* (sic) of sighs! It was, nevertheless, to no purpose that I searched for morbid symptoms to establish the diagnosis of some physical malady. He was attacked with that disease, which can render haggard the lovely virgin, with that disease which was the torment of Petrarch and Tasso, and to which fall equal victims philosophers and fools, shepherds and kings," &c.

In a word, the poor count was in love! and the marvellous cure effected by this grandiloquent leech consisted in sending him to the country to travel, work, hunt, &c.

We trust to see no more of *L'Eclettico di Adone Palmierj.*

5.—*Bullettino delle Scienze Mediche, pubblicato per cura della Società Medico-Chirurgica di Bologna, e redatto dai Socj* Prof. BARONI, Dott. Breventani, &c.—*Bologna.* 8vo.

Bulletin of the Medical Sciences, published under the superintendence of the Medico-Chirurgical Society of Bologna, and edited by, &c.

This journal is published monthly at Bologna, and contains on an average four sheets or sixty-four pages, in 8vo. Six numbers form a volume, and the price of the twelve annual numbers is two Roman *Scudi*, or 10¾ Italian *Lire.* It has existed seven years, and completed its twelfth volume last December. This is, on the whole, a respectable journal, although, like most Italian journals, its original papers are greatly exceeded, both in number and value, by those selected from foreign journals. By far the most interesting portion of its contents are the Reports of the *Accademia delle Scienze,* and of the *Societa Medico-Chirurgica* of Bologna, which it gives regularly: and this is the department from which we are most likely to draw, in supplying materials for our Third Department.

FRENCH JOURNALS.

6.—*Journal Hebdomaduire des Progrès des Sciences et Institutions Médicales.* Rédigé par une Société de Médecins et de Chirurgiens des Hôpitaux.

This, as its name implies, is one of the weekly journals of Paris, of the same size and something of the same appearance as our own *Medical Gazette.* It consists of two sheets, or thirty-two pages, 8vo., appears every Saturday, and the fifty-two annual numbers make four volumes, price twenty francs. It consists of four departments: 1, Original Memoirs; 2, Reviews; 3, Reports of the Medical Societies; 4, Miscellanies. With the last number of each month is given a very useful list of all the medical works published in France during that month, and which, under the name of *Le Bulletin Bibliographique,* is also sold separately, at three francs for the twelve monthly numbers. This journal commenced in October 1828, and is now consequently in its eighth year.

It was lately edited by MM. Bouillaud, Forget, and Vidal, but their names are now removed from the title-page.

The Journal Hebdomadaire often contains valuable papers, and combines, in a greater degree than some of the other weekly journals, subjects of more permanent interest with the lighter topics of the day. As is the case with other journals, its medical news are occasionally rather stale. For instance, in one of the numbers now before us, bearing date 14 November, 1835, we find, under the head *Variétés*, a lively description of the disturbance which took place at Sheffield, two years ago at least, and to which the readers of the *Journal* are attracted, as to an event of recent occurrence, by the title "Emeute et Destruction de l'Ecole de Médecine de Sheffield." We may also notice in this place, as an instance of it has just caught our eye, the extreme inaccuracy of our Parisian brethren in giving the names of foreigners, in their published writings. This must arise from mere carelessness and inattention, as they have the printed works before them to correct any sins of orthography which might flow in the first instance from the national mode of pronunciation.

AMERICAN JOURNALS.

3.—*The United States Medical and Surgical Journal, **conducted by a number of respectable Physicians in various parts of the United States**.—New York.* 8vo.

This is a new journal, having only existed about two years. It is published monthly. Its general form and style of getting-up is very much like that of the LANCET; the type being small, and the matter arranged in columns. The page is however larger, and each number contains a sheet and a half. The annual price is only three dollars. It is divided into several departments: Original Papers, Reviews, Analyses of other Journals, Selections, Intelligence, &c. Judging from the numbers which have reached us, we should say that this Journal has hardly yet settled down into a determinate and fixed character, and suffers from the want of a recognized and responsible Editor. It seems to have been considerably improved latterly, as the recent numbers contain many valuable original communications and well-written reviews. We are, however, surprised to find one whole number (Sept. 1835,) composed of extracts from the English Journals; a facile mode, assuredly, of getting up a journal, and one which would save Editors a world of trouble and expense, if readers would be contented with it; but we should think our transatlantic brethren, honouring the land of their forefathers as they do, will hardly thank the Editor for such a wholesale transference of our pages as this. We have a suspicion that the publisher of the United States' Journal has too much to do with the editorial department of it; and that he has, moreover, chosen the emblem on his cover (*a lancet tranchant*) as congenial with his temper; at least, we infer as much from sundry bitter sayings on his wrapper in reference to his former editors. If we are right, we recommend him, if he wishes his journal to prosper, to put his Editors' names on his title-page, and to let them have their own way. But, as we shall occasionally voyage to "the United States" for goods to stock our third department withal, we must not take upon us to blame its governors, without further proof of their delinquency.

PART THIRD.

Selections from Foreign Journals.

ANATOMY.

On the Structure of Bones. By MICHELE MEDICI, M.D., Professor in the University of Bologna.

[As we are not in possession of the original work, (the Transactions of the Academy of Sciences of Bologna), in which this Essay has appeared, we must request our readers to accept so much of its contents as we have been enabled to glean from the notice of it in the Annali di Medicina. In our first number we gave a transcript of the researches of W. and F. Arnold into the structure of cartilage and bone, but not having had an opportunity of verifying either their opinions or those of Medici, we cannot point out how far these different views of the same structures are reconcileable with each other. But as the observations of the Arnolds were made with the assistance of a microscope of considerable power, while those of Medici were made by the eye alone, it is probable that any discrepancies in the descriptions of these authors may be attributable to the different magnitudes of the portions of bone examined.]

Scarpa having, by the experiments and reasoning detailed in his work, De Penit. Oss. Struct., succeeded in overthrowing (at least in Italy) the commonly received opinions of the ancient anatomists, that the bones are formed of laminæ and fibres, and having established his own theory, that they consist in every period of life of a tissue always reticulated, cellular, and alveolar, such as is observed in the bones of the fœtus; our author considers that he cannot follow a course better calculated to support his own views, than by controverting those of his great predecessor by going through the same experiments, and adducing his arguments from the same sources. Following therefore the example of Scarpa, he examines the bones in their natural state, when altered by disease, and when affected by chemical reagents, or, in the words of the author, synthetically, pathologically, and analytically.

As the bones of an adult animal present to our view neither the laminæ nor the distinct fibres of which they are composed, but only certain more solid points here and there, with cells, channels, fissures, and interlacings of every form, and as it is known that the bones of the fœtus and infant are formed of a soft cellular, alveolar tissue; so it is believed by many that the same texture is preserved through the whole of life, and that the super-addition of calcareous matter only performs the office of solidifying and strengthening the cells sufficiently to resist the action of the muscles. Such a structure is certainly seen in the internal medullary portion of the cylindrical bones, but it is scarcely observed in the broad and flat bones, and not at all in the exterior portion of the long bones, which plainly consists of interwoven laminæ and fibres. In support of this opinion the author gives fourteen drawings of the fibrous and laminated structure both of flat and cylindrical bones, perfectly distinct from the primitive cellular and reticulated appearance observed in the bones of the fœtus.

In arguing from the pathological states of the bones in caries, exostosis, and periostitis, the author does not allow, with Scarpa, that these diseases merely exhibit the bone in its original form, but deprived of its calcareous matter; but asserts that they are irregular, abnormal, and varying conditions, arising from the action of morbid processes developed in the bones themselves, and common to them with all other parts of the living body. In support of this opinion he refers to many of Scarpa's plates, in which it is quite impossible, in its altered state, to trace the primitive form of the bone; particularly in one instance, where in various preparations of the same bone its structure is obviously different. And in proof of the fibrous structure of the long bones, he instances a case of caries of the tibia of a dancing girl, where the lower end of the bone had the appearance of "combed hair."

The results of Dr. Medici's analytical experiments will be best given in his own words: "I immersed a longitudinal portion of the thigh bone in diluted muriatic acid, when, after it had become softened to a certain degree, it exhibited a fibrous texture not only on its external and internal surfaces, but also throughout its whole thickness. Having continued the maceration some time longer, the bone was so far decomposed that some flocculi or bundles of bony fibres began to separate from it; when transferred into alcohol, I observed with much pleasure these bundles fluctuating within the clear liquor whenever it was agitated. Some of them having become detached, fell to the bottom of the vessel, where they remained dry and adherent after the liquor was poured off. Examined as they lay, the fibres appeared of a yellow colour and were perfectly distinct to the eye." The direction of the bony fibres was next examined, and was ascertained by numerous experiments to be longitudinal, although Medici could not determine whether they were continuous through the whole length of the bone. They are of a cylindrical shape, and sometimes rather conical; which depends upon the varying thickness of the bone. During maceration they are translucent like little worms; but when dry they are opaque, whitish, and elastic. They are usually parallel to each other, but sometimes they separate and take an oblique course, or are even bifurcated and branched and run into each other by means of oblique or transverse bony threads. In the flat bones the laminated and fibrous structure is much more evident. The author having macerated some pieces of the parietal and occipital bones, discovered in them a distinct superposition of laminæ like the leaves of a book. He observed the same in the internal table of the same bones, which was only interrupted by the impressions of the meningeal artery; moreover he asserts that he has seen certain "filaments or beards," appendages to the osseous fibres, rising up from the inferior table, meeting the upper, and appearing to be compressed or flattened by a force from above. They are of various shapes and lengths, sometimes formed of a single filament, sometimes bifurcated, cruciform, and branched, and so moveable in the macerated bone that they are easily raised up on the point of a needle. From certain parts of the bone they are entirely absent, as between the first and second, and between the second and third plates. As they penetrate towards the centre they increase in number, so that the bone at this part appears to be composed of an innumerable congeries of fibres, forming a downy substance and throwing out points to the circumference, which give it a dentated edge. The filaments are not observable on the external surface of the bones, but only after the removal of two or three of the laminæ. They are far more distinct where they terminate in the squamous suture of the parietal bone. From hence it would appear that there is a notable difference between the cranial and the other bones; as in the latter, the filaments form a part of the laminæ, whereas in the former they separate the laminæ completely without adhering to them.

The same results are obtained from experiments on the bones of animals; a similar disposition of the osseous fibres and laminæ interlacing with each other is very evident, both in the long and flat bones.—*Annali di Medicina, Gennajo,* 1835.

Of the supposed Origin of the Posterior Root of the first Cervical from the eleventh Cerebral (Accessory) Nerve. By FR. ARNOLD.

J. MULLER (in his *Archiv.* 1835, No. 1. p. 12,) claims to be the first who noticed that the accessory nerve sometimes gives off the posterior root of the first cervical, forming a little ganglion upon it within the dura mater; and adds, that "such instances prove the incorrectness of the views of Scarpa, Arnold, and Bischoff, according to which the accessory nerve is a motor only, and gives some motor fibres to the vagus; which, on account of its very distinct ganglion, should otherwise be deemed exclusively a nerve of sensation."

A reference to some writers, both of old and modern date, will prove that the case observed by Müller is by no means a new discovery, and has been better examined by earlier anatomists than by himself.

Huber *(De Medulla Spinali,* p. 13,) remarks, "Occasionally, the filaments that usually form the posterior root of the first cervical nerve are sent to the accessory; in which case the latter gives off, either in the same situation (but without any continuity with them,) two filaments, or a single larger one from a high point, to supply the place of the posterior root of the first cervical.

Asch, in his *Monograph* on the same Nerve, (p. 40,) states, "that the fibres of its posterior root are frequently intermixed on one or other side with those of the corresponding accessory. Whenever this happens, another filament of equal size quits the accessory, again to join and form the posterior root of the first cervical."

Correspondent descriptions are to be found in Bock *(on the Spinal Nerves,* p. 19,) and in Bischoff's *Monograph on the Accessory.* In the latter, the first plate represents the fact precisely as Müller supposes he was the first to discover it.

The result of careful examinations on my own part is, that occasionally the posterior root of the first cervical nerve runs for a short space in the sheath of the accessory, quitting it at a higher or lower point, without presenting any real communication between the fibres of the two nerves. I am altogether led to adopt the remark of Sabatier, (vol. iii. p. 275,) viz. "The trunk of the accessory is usually so closely connected with this nerve at its passage outwards, that it might be supposed filaments were detached from one to join the other. I have found, however, that usually, if not always, whatever might appear to be the case, there is really no continuity between them."

Hence it is clear, that the case noticed by Müller is not new; that most preceding anatomists had observed it more accurately than himself; and, lastly, that the true relation of the two nerves furnish no evidence against a doctrine resting for its support on so many facts derived from minute anatomy, pathological anatomy, and experiments on animals.—*Tiedemann's Zeitchrift,* Band v. 1835.

Of the Development of the Iris. By Fr. Arnold.

Kieser was probably the first to notice, in the chick, that the iris, from the first, offers a complete circle, though there is a fissure in the choroid and retina. The same fact was subsequently announced in the embryo of lizards, by Emmert and Hochstetter. *(Reil's Archiv.* 10, p. 91.) The correctness of the observation, viz. the origin of the iris in the form of a complete, uninterrupted ring, has still more recently been confirmed, in addition, by Von Baer, Ammon, Seiler, and myself, in the embryo of man, in the mammiferæ, in birds, and amphibia.

Tiedemann's Zeitchrift, B. v. 1835.

PHYSIOLOGY.

Experiments on Saliva. By Dr. C. H. Schultz, Professor at the University of Berlin.

1. *Experiments on the Human Saliva.* Saliva was obtained for the purpose of these experiments, by Dr. S. and the students of his class exciting their salivary glands to an augmented secretion; which object was attained by taking hard cakes of sugar into their mouths, or by applying the tincture of the spilantha oleracea to their lips. Saliva thus collected, without the act of suction, is of course commixed with mucus from the mucous membrane of the mouth. It is translucid, tending very slightly to opacity, is considerably spumous, and ultimately deposits a cloudy sediment. It mostly contains alkali in a free state, in rare instances (during meals,) acid, and is now and then, during fasting, of a neutral character. In some cases a drop of vinegar scarcely suffices to neutralize a drachm of saliva; but whe-

ther thus neutralized or in itself originally neutral, nay, even if it at first contained free acid, it in every case assumes an alkaline character after remaining in a cool situation for sixteen or twenty-four hours, without evincing any traces of fermentation. The vapour emitted from alkaline saliva under the influence of heat restores the blue colour to reddened litmus paper, but the red colour returns if the paper be subsequently suspended in the air for a short space of time; and the same evanescent effect is produced upon reddened paper by recent fluid saliva. These circumstances prove the alkali to be volatile, in other words, *ammonia*. The extremity of a glass-rod, moistened with muriatic acid, soon exhibited acute white nebulæ of muriate of ammonia, when held over heated or even over cold saliva. Even in its dry state, the saliva still developed ammoniacal vapour, on carbonate of potass being superadded. Saliva does not coagulate from the influence of heat, a proof that it does not contain albumen: it forms a considerable scum at a temperature of 212° at first, but ceases or nearly ceases to do so after it has boiled for some little time.

2. *Experiments on the Saliva of the Horse.* A metallic tube communicating at its nether end with a bladder, was inserted into the divided Stenonian duct of a horse. For a whole day the parotid gland yielded no saliva, but a plentiful secretion ensued the next day, amounting, within twenty-four hours, to nearly fifty-six ounces; more than the half of which was obtained during the feeding hours. This saliva had the appearance of water slightly turbid, and slightly tinged with white wine. Its consistency was scarcely greater than that of water, and it frothed considerably on being shaken or poured from one vessel into another. Slender flocculi were seen suspended here and there in the fluid, but these afterwards collected at the bottom of the glass. Being separated from the fluid by filtration, they appeared to be convoluted membranous filaments, resembling epithelium. They were conceived by Dr. S. to be portions of the membrane lining the glandular ducts, and to have been elicited from thence by the corrosive tendency of the saliva. The specific gravity of the saliva was (at a temperature of 54° F.) 1.0125. Taste insipid, very slightly saline; chemical nature, powerfully alkaline, a grain of vinegar being required to neutralize a drachm of the saliva. Further experiments proved the alkali to be chiefly ammonia, although red paper, which had been restored to its original blue by the action of the saliva, was not again changed by exposure to the air. Saliva left standing for a week was found to have undergone decomposition, and to contain acetic acid in a disengaged state.

3. *Ptyaline.* Ten ounces of recent saliva obtained during feeding hours, and a like quantity procured during the hours of fasting, were separately evaporated to dryness, when each portion yielded a dry residuum of ninety grains, of a yellowish-white colour. This residuum rapidly attracted moisture from the atmosphere, and evinced the predominance of alkali.

The two portions of residuum, together 180 grains, were digested for six hours with seven ounces of alcohol, (spec. grav. 0.835,) by which means 110 grains were dissolved. The insoluble remainder, amounting in weight to seventy grains, was dryed, mixed with water and submitted to a gentle heat for six hours. A flocculent, greyish, yellow, diffuse deposit was thus produced, which being separated from the fluid by filtration, presented a doughy mass of the size of a walnut. Evaporated to dryness, it shrunk together, turned of a blackish grey, and weighed but eleven grains. The water had therefore dissolved fifty-nine grains. This solution, which according to Berzelius would contain the ptyaline, was of aqueous transparency, and did not froth like saliva. On its being dryed in a water bath, the entire exsiccated ptyaline did not, as Berzelius affirms, dissolve in water: on the contrary, an insoluble diffuse deposit was again formed.

4. *Examination of the Empty Stomach in Animals. First Experiment.* The stomach of a horse which, after fasting for several days, had died of tetanus, contained no remains of food beyond a single grain of oats. The fundus, however, or cul-de-sac (which in the horse was a lining of hard epidermis not extending to the pyloric portion), contained from three to four ounces of a turbid yellowish fluid, which after a time deposited a considerable flocculent sediment. This fluid quickly

changed red paper to blue, as did likewise the coats of the stomach with which such paper was placed in contact.

Half an ounce of the above fluid was neutralized, under effervescence, by twenty-four drops of vinegar, and a series of experiments proved the alkali to be ammonia, whilst others showed some of the saline ingredients to be acetates. The deposit above described did not appear on further examination to contain any portion of bile, but to possess, on the other hand, a substance similar to that portion of saliva which is insoluble in alcohol.

The epidermis lining the fundus ventriculi exhibited isolated patches of erosion, a common phenomenon (according to Professor Gurlt, of the veterinary school at Berlin) with horses after a protracted fast. The author of the present experiments believes it to be owing to the powerfully alkaline nature of the fluid matter, and hints that spontaneous perforation of the coats of the stomach may arise from a similar cause.

Second Experiment. The stomach of a dog which was killed after fasting for forty hours, was found in a state of entire collapse, and its internal coat endued with a thick covering of mucus, in which alkali predominated. Water, in which, after the mucus had been entirely removed, the stomach was steeped for twelve hours, was found to have assumed a slimy consistency and to exert an alkaline reaction, although it had, notwithstanding, the property to curdle milk. In the jejunum of this dog a tænia cucurbitina was discovered, the greater part converted into a disorganized, pulpy mass—a proof, Dr. S. adds, that fasting has the power of causing intestinal worms to be digested.

The internal gastro-enteric membrane and the contents of the gall bladder were examined in a frog during the hibernating period, and found equally imbued with free alkali.

The experiments appear to succeed best when the test paper made use of is of a firm compact texture. When its texture is loose, the fluid to be tested is immediately imbibed, and the colours consequently become indistinct.

During the process of digestion, the acid of the chyme penetrates the whole parietes of the stomach, so that, at this period, the coats still retain an excess of acid even after having been steeped in water. This state continues for some time even after digestion has been completed; an uninterrupted influx of saliva, however, gradually neutralizes the acid, and alkali ultimately establishes itself in excess. Such a process of alternation, however, necessarily occupies a shorter or longer period (from eight to twenty-nine hours) according to the quantity of food to be digested. In the instances, therefore, where Professors Tiedemann and Gmelin observed acid to predominate in the stomachs of dogs which had been made to swallow flint pebbles, Dr. S. imagines that the experiments must have anticipated the neutralization consequent on digestion, as he considers it improbable that an excess of acid can have been the result of mere preternatural irritation.

Attributing the alkaline nature of the gastric contents (in the subjects of his own experiments) to the simple influx of saliva, Dr. S. explains the circumstance of fluid saliva being met with in the stomach of the horse and *not* in that of the dog, to the different constitution of the internal coat. In the horse, as already stated, the fundus ventriculi is armed with a stout epidermis which is very slightly endowed with the power of absorption or secretion—in the dog the more active membrane readily absorbs a large proportion of saliva, whilst it simultaneously secretes a quantity of mucus. Owing to this admixture, the contents of the dog's stomach when diluted with water will coagulate under the influence of heat,—a property denied to the fluid taken from the fundus ventriculi of the horse.—*Hecker's wissensch. Annalen, Zweit. B. Erst. Heft.* 1835.

On the Respiration and Pulse of the Old. By MM. HOURMANN and DECHAMBRE.

[IN No. I. page 233, we have given an analysis of the first part of this memoir, containing a description of the anatomical changes produced in the thorax by age. The second part embraces the modifications in the functions of the thoracic organs consequent on these changes. It must be recollected that two classes of aged females were alluded to, the first containing those who still retained their plumpness, and whose chests were large; the second, whose chests were contracted, and their whole appearance emaciated.]

1st Class. In an adult female the average admeasurement (by Baudelocque's pelvimeter) of the antero-posterior diameter of the chest during expiration is from six inches and a half to seven inches: the transverse, on a level with the nipple, is from nine and a half to ten inches; and towards the base, (level with the eighth rib) from eight inches and four lines, to nine inches: during a full inspiration the first diameter augments on an average one inch; the second one inch; the third one inch, eight lines. In old women of this class, the antero-posterior diameter during expiration is from seven to seven and a half inches; the superior and inferior transverse eight and a half to nine. The increase in inspiration is much less than in adults, rarely exceeding from four to five lines, and almost equal in the three directions. The sound on percussion is sonorous. When the lungs advance in front of the heart, the whole of the anterior part of the chest may give a clear sound: thus obscuring the diagnosis of diseases of the heart and pericardium; and simulating them if this portion of the lungs becomes indurated. When the liver is thrust down into the abdomen, and drags with it the right lung, the right side of the chest may give a clear sound to the same level as the left, or even lower. The respiratory murmur is distinctly vesicular, but larger, more noisy, less deep, and abundant.

2d Class. Emaciated old women, with contracted chests. As the respiratory organs become worn out, the necessity of employing them diminishes in a corresponding degree. Thus their movements are very unequal: both as to time and duration. During expiration the antero-posterior diameter is from seven to seven and a half inches: the superior transverse from eight to eight and a half; the inferior transverse from seven to seven and a half; in a full inspiration the first diameter increases from five to seven lines; the last two one, two, or three lines at most, and often not at all. Thus in old age the movements of the chest, particularly in the transverse direction, are considerably diminished. The elevation of the sternum is diminished, and the anterior projection of its inferior part is altogether prevented by the circular depression (previously mentioned), and the overlapping of the cartilages of the lower ribs, the effects of stays; as well as by the ossification of the cartilages of the first and second ribs. Owing to this diminished motion of the bony walls of the chest, the diaphragm often becomes the chief agent in inspiration; its action is redoubled, and its folds often form depressions on the posterior edge of the liver. The scaleni and sterno-cleido-mastoidei muscles are rendered useless where the spine is much curved; to remedy which the head is thrown back at each inspiration, so as to put these muscles on the stretch. Expiration is sudden and rapid, as if the whole bony framework fell as a single piece. Forced expiration, however, as in cough and expectoration, is difficult, for the recti, obliqui, and *transversales* abdominis are relaxed when the senile curvature is considerable.

Percussion. The sound on percussion is remarkably clear, equal to that of well-marked emphysema when the lungs are in the third type. The sound is *modified* by situation: thus the region corresponding to the inner half of the clavicle is much less sonorous than the anterior and superior region of the chest, which is owing to the almost constant presence of black or grey indurations of the upper *part of* the lungs, and to the very arched shape of the clavicle in the old. The sternal region is usually but little sonorous, owing to the diminished size of the lungs: the situation of the heart can therefore be exactly marked out by percussion.

Auscultation. Where the lungs are of the second type, respiration gives rather a blowing sound than a murmur; a sound like that produced by expelling the air through the compressed lips: and when the lungs are in the third type, this sound is so increased that it is more like general bronchial respiration. Its intensity is very variable: sometimes heard with difficulty, and the next moment noisy. When one lung is obstructed in any way, as in pneumonia, the respiratory murmur in the sound lung becomes more uniform, and in fact more vascular. The resonance of the voice is loud and noisy, almost bronchophonous: and in some so acute and interrupted as to become vibrating and jerking, as in ægophony.

Relation between the State of the Pulse and the Respiration. The examinations were made between half-past six and half-past seven in the morning, before the old women had eaten: some were in bed, others sitting on their beds. Three hundred and twelve were examined, 88 of whom were of the first class, and 214 of the second; 15 of the first class, and 42 of the second, were excluded, on account of the irregularity of the pulse: this irregularity was in the proportion of 1 to 6.53 for the first class, and 1.509 in the second; making a difference of 1.44. Consequently there was much less irregularity among those whose organization was most perfect. There remained 255 women, between the ages of sixty and ninety-six.

Sum of their ages 18,960; average, 74.33 years.
pulsations 20,984; 82.29 pulsations.
respirations 5,558; 21.79 respirations.

The relation consequently between the number of respirations and pulsations is as 1 to 3.41.

From this it appears that 82.29 is the mean number of pulsations of 255 aged women, contradicting the general opinion that the frequency of the pulse decreases with age. Thus Soemmering, Adelon, &c. give seventy pulsations as the average of the adult age, and sixty that of old age. MM. Leuret and Mitivié suspected this error from an examination of seventy-one of the aged inmates of the Bicêtre and Salpêtriere, and these researches on a larger scale confirm it. If, as M. Magendie supposes, there are twenty pulsations on an average every minute, in the adult, the frequency is increased in old age by 1.79; a proportion much less than the increase in pulsations. From comparison of the two classes of women another curious fact is obtained, confirming the preceding one.

Eighty-three of the 255 women, belonging to the first class.

Sum of ages 6195; average, 74.64 years.
pulsations 6673; — 80.42 pulsations.
respirations 1755; — 21.14 respirations.

172 belonging to the second class.

Sum of ages 12,765; average, 74.21 years.
pulsations 14,311; — 83.78 pulsations; an increase of 3.31 beyond the first class.

Sum of respirations 3803; average 22.11; or an increase of 00.97 beyond the first class.

The relation between the pulse and respiration hardly differs in the two classes.

Thus in the women of the first class who are younger in *organization*, though not in age, both the pulse and the respiration are less frequent than in the second class, who are worn out and decrepid; proving that senility is the real condition of this frequency.

It may be thought that some error has arisen from taking into the calculation those cases where the pulse was extremely frequent, although the individuals were in apparent health. To decide this point, a table is drawn up dividing the classes into six series, according to the rapidity of the pulse; from which it appears that in two-thirds the pulse was between seventy and eighty-nine, and in almost one-sixth between ninety and ninety-nine. Again, if those cases are excepted in which the pulse was below sixty and above eighty-nine, that is, very slow or very rapid, 185 individuals remain.

Their average age is 74.38
The average number of pulsations is 76.42
respirations is 20.91.

The relation between the respiration and pulse is 1 to 3.65. Thus after making the largest concessions, the frequency of the pulse is greater than, and that of respiration at least equal to, what is considered the average frequency in adults. In the following table the question is examined as to the relation between the respiration and pulsations, in those whose circulation and breathing were disordered. Out of the 255 there were 57 thus affected.

The average age of these 57 women is 66.50
The average pulse 95.17
respirations 27.75.

Relation of the respiration to the pulse is 1 to 3.72, thus exceeding the average ratio in the whole number by 0.31; and proving the same relation, though less decidedly.

The commonly received opinion that the pulse decreases in frequency in old age is probably owing to instances occasionally occurring in which the pulse is remarkably slow. Thus these authors have felt it at thirty, twenty-nine, twenty-eight, in women whose only disease appeared to be senile marasmus. Generally in old age the pulse attains extreme degrees of slowness, or frequency, but the first is the exception and the second is the rule. The error has arisen from taking the one for the other.

[In a practical point of view the statement here made, that the pulse increases in frequency in old age, deserves much attention. Those who have opportunities of examining the truth of it for themselves, in extensive workhouses, should bear it in mind.]—*Archives Générales de Médecine, Novembre,* 1835.

Experiments on the Brain, Spinal Marrow, and Nerves. (With Woodcuts.)

By Professor MAYER, of Bonn.

AMONG the physiologists who have endeavoured to investigate the functions of the brain and nervous system in modern times, Professor Mayer places our distinguished countryman Sir C. Bell foremost on the list; adding the names of Rolando, Bellingeri, Magendie, and Flourens. The experiments of Flourens are some of the most important on this subject, but the great objection to them is the extensive injury which was unavoidably produced upon the brain, its nerves, and vessels, during these experiments; so that the precise effects upon the brain were probably more or less modified by the effects of the operations. Professor Mayer's object has been to repeat the experiments on a more simple plan; to avoid opening the cavity of the cranium, wounding the vessels, the severe hemorrhage, and exposure of the wounded parts to the atmospheric air; and thus to make the result more simple and certain. He has endeavoured to determine how far the influence which the activity of the brain exerts upon the organic system is disturbed, where, without having undergone any injury, its supply of blood, which we must look upon as the chief source of its vitality and activity, has been partly or wholly cut off.

We may effect this object in two ways: viz. by tying the arteries which supply the brain, and by injecting some foreign fluid into these vessels. With regard to the first method, this chiefly refers to putting a ligature upon the two carotids, because tying the vertebral arteries at the same time is not only almost impossible to effect, but, as we shall also find, is instantly fatal. On the other hand, putting a ligature upon both carotids, and also upon one subclavian, may be effected, as will be seen shortly.

The experiments of tying both carotids, besides their physiological value, are interesting to the medical practitioner, because cases might occur where it was necessary to undertake this operation in the human subject: it is therefore highly desirable to be previously acquainted with its effects on animals. This applies equally to the operation of tying one carotid.

"On a former occasion," says Professor Mayer, "I have called the attention of the surgical part of the profession to a consequence of tying the carotid, as regards morbid action in the eye.* These views have been recently confirmed by a new fact, viz. that in the operation for tying the carotid of a man, which was performed by Professor Bünger at Marburg, the eye of the same side suffered considerably."

It will be impossible to give a detailed account of these experiments; we shall therefore content ourselves with presenting to our readers a short summary, which the author himself has given at the end of the physiological part.

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* Journ. für Chirurgie und Augenheilkunde, von Dr. v. Graefe, &c. 10 band, 3 heft.

Experiment 1. One carotid* being tied in a rabbit, produced no peculiar symptom.

Experiment 2. Both carotids being tied in a dog, the following symptoms were observed: The action of the heart diminished somewhat; the respiration sunk from forty-two to twenty-eight; weakness of the eyes, sopor, trembling; the body drawn to one side The animal recovered in six days.

Experiment 3. Tying both carotids in a rabbit produced no peculiar change.

Experiment 4. The same operation on a dog produced sopor, weakness in the eyes, and diminished number of respirations in a minute. In the course of four days the animal recovered.

Experiment 5. The same operation in a pigeon produced a very considerable effect: viz. debility of the eyes, vertigo, trembling of the head, inability to stand erect; respiration sinking from 105 to twenty-two in the minute; the temperature diminished 4° 5′ Fahr.; the action of the heart experienced but little change. The animal died on the fourth day, convulsed.

Experiment 6. Tying both carotids in a rabbit produced trembling of the head, fæcal vomiting, convulsions, and death in fourteen hours.

Experiment 7. The same experiment made on a horse was followed by very violent symptoms: weakness of the eyes, vertigo, collapse as if struck by lightning, incapacity of swallowing, violent madness, convulsions, and death in fifty-eight minutes.

Experiment 8 produced the following symptoms in a rabbit: insensibility of parts in opposite directions, viz. the right ear and left eye; expression of alarm; drawing the head to one side; diminution of the heart's action; increased rapidity of respiration. Recovery on the third day.

Experiment 9. Tying the two carotids and left par vagum produced the following effects: The head became lifeless, especially upon the left side; the left eye insensible; the animal fell on the left side; convulsions, trismus, and tetanus followed; the respiration became slow and rattling; the heart's action weak, and the temperature fell 15° 75′ Fahr. General paralysis, and death in six hours after the operation. On examination after death, extravasations of blood were found in the lungs and stomach, the lining membrane of which was corroded.

Experiment 10. Both carotids of a rabbit were tied; a series of remarkable symptoms were the result. The paralysis was distinctly crucial: there was insensibility of the eye and ear, (the left eye became insensible from the beginning, as also the right ear; whereas, the right eye and left ear continued sensible for some time;) tetanus and trismus; incapacity of swallowing, food returning from the œsophagus; the heart's action but little diminished, whereas the number of respirations fell to sixteen; the temperature sank 27° Fahr.; entire loss of animal heat, and death from loss of sensation and irritability on the fifth day. After death, an unusual quantity of pure gastric juice was found in the stomach. In both eyes an inflammatory membrane had formed on the anterior surface of the iris, closing the pupil.

Experiment 11. The symptoms were as follows. Distinct crucial affection of the ear and eye; both eyes afterwards became insensible; tetanus and trismus; the head twisted to one side; chorea; pulsations of the heart reduced to ninety, respiration to twenty; the temperature fell 22° 5′ Fahr. General paralysis, and death in nine hours and a half. Extravasations of blood were found in the stomach, the lining membrane of which was corroded.

Experiment 12. Both carotids and the right subclavian artery of a goat being tied, diminished the respiration and action of the heart; it produced affection of the eyes, vertigo, tottering with the head, inability to keep itself on its legs, tetanus, and death in four days.

Experiment 13. Injuring the cerebellum of a rabbit, by passing an iron wire through it, and, five days after this, tying the carotids, produced similar symptoms as in the eleventh experiment: the animal died on the eighth day. An inflammatory membrana pupillaris was found in the eye.

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* By carotid is understood throughout the Carotis communis.

Experiment 14. Injuring the cerebellum of a rabbit produced no peculiar symptom; whereas, tying the carotids seven days after, (in doing which, the right par vagum and sympathetic were included,) produced similar results as in the tenth and eleventh experiments: viz. the right eye was paralyzed, the cornea ulcerated, and, on dissection after death, an effusion of lymph was found on the anterior surface of the iris. The animal died on the twenty-first day.

Experiment 15. The two carotids having been tied in a rabbit, the symptoms already described appeared; of which, the fæcal vomiting especially was very severe. An iron pin was passed into the brain on the sixth day: the animal appeared blind, ran against every thing, and died on the eighth day.

Experiment 16. Tying the carotid and subclavian arteries in a rabbit produced death in the space of a minute. It was very remarkable, that the heart continued to beat actively six minutes after. Even forty minutes after death, when the animal had become stiff for full ten minutes, the heart still beat eleven times in the minute.

Experiment 17. The same operation instantly destroyed a pigeon.

Experiment 18. Tying the carotids in a marmot, which was in its hybernating sleep, produced complete rigidity and death.

Experiments of injecting a foreign Fluid into the Carotids.

Experiment 19. The injection of a little quicksilver into the carotid of a rabbit produced violent suffering, vertigo, twisting of the head, insensibility of the eyes, (first of one, then of the other side,) diminished action of the heart and respiration. The animal died in twenty-two minutes.

Experiment 20. Under the same circumstances, lifelessness of the head and body, tetanus, and death in four minutes.

Experiment 21. The symptoms were, diminution of the heart's action, of the respiration and animal heat; hemiplegia, and crucial paralysis of the head, eyes, and ears; trismus; refusal to take food; incapacity of swallowing; fæcal vomiting; rigidity, and death on the fourth day. On examining the body, the lining membrane of the stomach was found corroded, and an inflammatory exudation in the eye. The similarity of the phænomena with those observed after tying the carotids is remarkable: (see Exp. 10.)

Experiment 22. The paralysis of the head and eye was still more distinct in this instance; the cornea of the left eye ulcerated. Death, on the eighteenth day, resulted from diminution of temperature, rigidity, and want of nourishment.

Experiment 23. A small quantity of common injecting wax was thrown into the carotid of a ram. It produced sudden loss of sensibility, of motion, and life, in the head, which spread gradually over the whole body. The respiration stopped, as if the animal seemed to forget the necessity of its continuance. The heart's motion continued active, as if the remaining powers of life had concentrated themselves upon it. The animal died in twelve minutes.

Experiment 24. The same phænomena were produced in a goat, and death in eight minutes.

From these experiments Dr. Mayer draws the following conclusions:

1st. That a healthy state of the cerebral activity is the necessary condition of life: in other words, the encephalum (viz. the brain, cerebellum, and medulla oblongata,) is the peculiar source of vital power,—the *fons vitalis.*

2d. The medulla spinalis, of itself, is not sufficient for the continuance of life, as its own life depends upon the vital energy of the encephalum. This inference is deduced especially from the results of the Experiments 23 and 24.

3d. The vertigo and inability of preserving the upright posture is also a result of impeded cerebral activity. We are scarcely justified in attributing these effects to an injured state of the functions of the cerebellum, because, even in the experiments where the vertebral arteries are tied, the cerebellum receives a sufficient supply of blood.

4th. These experiments, moreover, tend to shew that the brain directs and guides the vital functions. The cause or principle of the vital functions (viz. the circulation, respiration, nutrition, animal heat, &c.) is not in the encephalum, but the impulse to exert these functions of vegetative life emanate from it; and they cease when the encephalum sinks into inaction.

The necessity (we might almost say the recollection) of the vital functions stops the instant the vital activity of the encephalum is interrupted: the animal suddenly ceases to breathe, or merely breathes slightly, and always slower; it holds the food in its mouth, forgets to swallow it, or lets it fall out again. The stomach retains some contractile power, but it is an antiperistaltic motion, producing fæcal vomiting. Where the destruction of the activity of the encephalum has been gradual, general insensibility comes on, and the animal dies, from loss of its animal heat, from hunger, rigidity, and exhaustion. If we compare these experiments with those made by Flourens, their results will be found extremely similar. The symptoms which occur in the comatose stage of typhus come under the same head: patients in this state die through insensibility to the vital functions, from paralysis of the encephalum, if they be not continually roused from their sopor, and stimulated by sinapisms, &c.

The physiological researches, especially during the last thirty years, both in this country and the continent, have satisfactorily proved that most, if not all, of the agents which exert such destructive energies on the nervous system do it through the medium of the circulation: this has been shewn by the experiments of Christison and Coindet, of Brodie, Emmert, Viborg, and many others. Those of Sir B. Brodie on the action of the woorara poison are well known. Emmert shewed this to be the case in a still more striking manner, by amputating the leg of an animal, and leaving it connected with the body only by means of the nerves: poisonous substances introduced into the foot produced no effects, not even when applied to the trunk of the nerve; and Viborg even applied one drachm of concentrated prussic acid to the brain of a horse which had been exposed by trepanning, without producing any effect. The experiments of Dupuy* on the contamination of the vital current strikingly confirm Dr. Mayer's observations. He found that injecting water, in which muscle had been soaked for four and a half years, produced symptoms in animals precisely similar to those of typhus; viz. debility, loss of sight, coma, falling of the head, &c. Gaspard† also injected mercury (half an ounce) into the carotid of a sheep, which produced insensibility, coma, and death in fifty minutes; but he does not appear to have carried the subject further in this direction, or to have made any practical deductions from it.

"The impulse," says Professor Mayer, "and the feeling of necessity to keep in action the vital functions, has its seat in the encephalum. Thus, when we reverse the experiment, and separate the head and brain from the trunk, especially in new-born animals, we observe symptoms of the above-mentioned impulse in the decapitated head. The heads of newly-born puppies or kittens, when thus separated from the body, suck the finger which is put into the mouth for ten or fifteen minutes. Attempts at respiration are made by opening the mouth, (a fact first noticed by Le Gallois,) and by the glottis alternately opening and shutting."

Dr. M.'s fifth and last inference is, "that the above-mentioned experiments tend to prove, beyond doubt, that the circulation, the production of animal heat, and lastly nutrition and secretion, depend on the activity of the encephalum, and they stop when it stops; moreover, that the impulse to the continuance of these functions proceeds from the encephalum. It cannot be denied that a variety of causes connected with these functions have their seat in the body; but the main-spring, which sets all the wheels of the vital functions in motion, and without which they stop, resides in the encephalum."

The *anatomical* part of this interesting essay presents some minute research and elaborate investigation, which can only be appreciated properly by aid of the engravings with which it is illustrated. Our limits, and the nature of the British and Foreign Medical Review, will prevent our taking such copious extracts as we could have wished, and we must merely confine ourselves to a general outline of Professor Mayer's labours.

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* Injection des Matières putrides dans la Veine Jugulaire du Cheval. Nouv. Bibl. Méd. 1823, Jan., p. 90.

† Mémoire Physiologique sur le Mercure. Magendie's Journal, t. i. No. 2, p. 165.

Experiments have shewn that the most vital part of the encephalum extends from the pons Varolii along the whole medulla oblongata, and at least as far as the second cervical nerve of the spinal marrow; in any part of which a wound is instantly fatal; that, as we descend along the medulla spinalis below this point, or ascend to the brain and cerebellum above it, the effects of injuries become gradually less fatal and dangerous. Professor Mayer's object therefore has been to subject this *centrum vitale* to a minute and rigorous examination, and he has shewn it to be a rich field for observation and discovery. It will be excusable in us to indulge in a little national pride in translating the following passage: if we had no other motive than that of respect for the distinguished physiologist to whom it refers, it would be sufficient; but we deem it no more than fair to shew how honestly and honorably the Germans appreciate the labours of other nations. We give it literally.

"The importance of distinguishing between the anterior and posterior origins of the spinal nerves, since this fact was first established by the talented Charles Bell, has been particularly insisted upon. Magendie has the merit of having fully confirmed these facts by the test of experiment, in which he has so often displayed the master's hand; and Joh. Muller has still more recently confirmed the original views of Bell by experiments on frogs."

The results of Professor Mayer's researches on the origin of the glosso-pharyngeal nerve, the par vagum, the hypoglossus, spinal accessory, and first cervical nerves, is to shew that, of these, the hypoglossus, the spinal accessory, and first cervical, belong to that class of nerves which possess the double faculty of sensation and motion. The question is, does not this compound structure enter more deeply into the organization of the nervous system; or, in other words, shall we not find evidences of it in the phrenic, and even in the sympathetic nerves?

"With regard to the phrenic nerve," says M. Mayer, "I am aware of no researches in which its origin has been traced farther into the fourth cervical nerve. Fig. 1 not only shews the manner in which the phrenic gives off four twigs to the ganglion spinale of the fourth cervical nerve, but is also continued by means of two others along the anterior root of this nerve into the spinal column, so that we may justly say that the phrenic has its origin directly from the medulla spinalis. This is the more remarkable, because the phrenic, with the exception of its connexion with the cardiac nerves of the par vagum and sympathetic, *is purely* a muscular nerve, (going to the diaphragm). If we examine the sympathetic, we shall find that Soemmering has distinctly mentioned that it receives its roots, or connecting twigs, both from the posterior as also the anterior roots of the spinal nerves."

Professor Mayer has succeeded in tracing the supposed origin of the sympathetic into the spinal marrow itself, not only in animals, but also in the human subject and has given a drawing of the direct and indirect connexion of the sympathetic with the spinal marrow by the anterior and posterior roots of the second lumbar nerve. Fig. 2 shews it in the human subject; and fig. 3 in the calf, to the description of which he refers. According to this, he shews that the sympathetic not only communicates by means of many twigs with the ganglion spinale of the spinal nerves, and thus, with their posterior roots, but that one, two, or even three insulated twigs of the sympathetic are distinctly continued with those of the anterior root into the spinal marrow.

"The nerves," says Professor M., "if I may so express myself, shew a remarkable predilection for decussating or crossing. An arrangement of this kind I have observed in the cardiac nerves; the left branch passing to the right ventricle and pulmonary artery, the right to the left ventricle and aorta. This is not very distinct in the human subject; whereas, in animals it is much more so, and remarkably so in the horse."—"On the other hand, this arrangement of the nervous fibrillæ in the central parts of the nervous system,—viz. the brain and spinal marrow,—is only observed at one spot, viz. at the origin of the corpora pyramidalia. I have always been able to detect this decussation in the human subject, although of variable extent; whereas, in many mammalia, it does not exist at all; in others, again, it appears."

DESCRIPTION OF THE PLATES.

Figure 1.

Portion of the spinal cord from which the 3d and 4th cervical nerves arise. Front view, in the human subject.

1. Third cervical nerve. 2. Fourth cervical nerve. 3. Fifth cervical nerve.

a. Medulla spinalis.

b. Posterior root of the 3d cervical nerve, consisting of five thick cylindrical twigs, and passing into the ganglion spinale.

c. Anterior root of the 3d cervical nerve, consisting of three thin flattened bundles with tapering extremities.

d, d. Accessory nerve, passing downwards between the two roots of the 3d and 4th cervical nerves.

e. Posterior root of the 4th cervical nerve, consisting of two large and thick bundles of filaments, of which the superior gives off a communicating branch to the posterior root of the 3d cervical nerve. They form the ganglion spinale, from which arise

f. A cutaneous cervical branch, and

g. A muscular branch to the scaleni.

h. Anterior root of the 4th cervical nerve. An upper branch is observed arising by three filaments from the spinal cord; it then receives a communicating filament from the lower branch, takes its course to the ganglion spinale, and, passing over it, forms, with another superficial branch, the superior root of

i. The phrenic nerve. A lower filament of the anterior root is also seen, which joins the phrenic nerve, as

k. The inferior root of the phrenic nerve. Between these two roots of the phrenic nerve (*i, k,*) four slender filaments are observed, which come off from the ganglion spinale.

l, l. After this origin, the trunk of the phrenic nerve communicates with the cervical nerve, and then passes downwards.

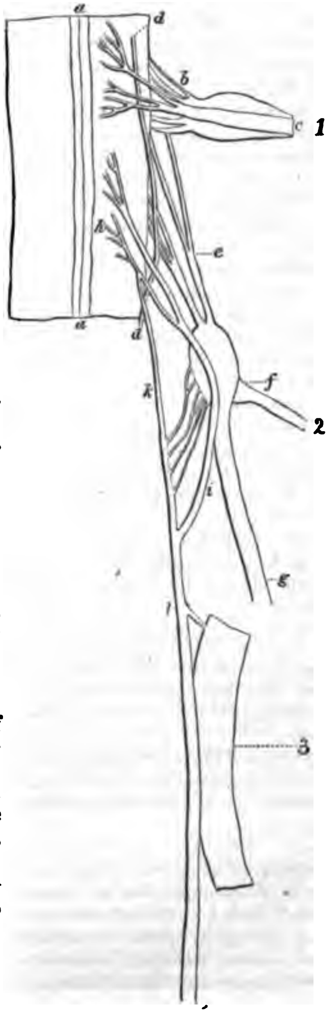
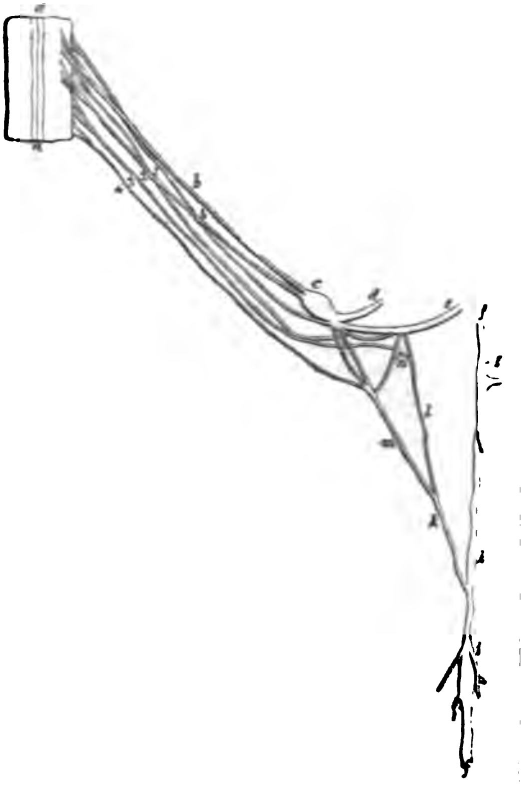


Figure 2.

A portion of the spinal cord from the lumbar region, with the origin of the sympathetic and of the 2d lumbar nerve at this spot, in the human subject.

a, a. Portion of the spinal cord from the lumbar region, seen from behind.

b, b. Two filaments of the posterior root of the 2d lumbar nerve.



c. Ganglion spinale, formed from the above filaments.

d. Ramus muscularis dorsalis of the 2d lumbar nerve.

e. Anterior branch of the same, (Ramus ileo-inguinalis.)

f, f. A part of the lumbar portion of the sympathetic.

g, h, i. First, second, and third lumbar ganglion of the sympathetic.

1, 2, 3, 4. Four branches of the anterior root of the 2d lumbar nerve, dissected from each other.

The upper branch (1) takes its course outwards, and, passing by the ganglion, assists to form the branch *d, e.* The branches 2 and 3 unite during their course, but again separate, so that No. 2 passes into the trunk of the nerve, *e,* which is formed of filaments from the ganglion and No. 1. No. 3 joins the sympathetic. The 4th branch passes distinctly by itself into the sympathetic.

k. Filament of communication between the 2d lumbar nerve and the sympathetic, dividing into two branches *b* and *m.*

l. The upper branch gives off a twig to the nerve *e,* and then passes into the 3d branch of the anterior root of the 2d lumbar nerve.

m. The lower branch divides into four filaments; of which, the anterior passes into the nerve, *e,* having previously united with the branch, *l,* by a twig at *n.* Two other filaments unite with the ganglion spinale, and the fourth goes to form the branch No. 4 of the anterior root of the second lumbar nerve.

Figure 3.

Portion of the spinal cord at the origin of the second lumbar nerve, in the calf.

aa. Anterior surface of the medulla spinalis.

b, b, b, b, b. Five branches of the posterior root of the second lumbar nerve.

c. Ganglion spinale formed from the above.

d. Ramus dorsalis of the second lumbar nerve.

e. Ramus anterior of ditto.

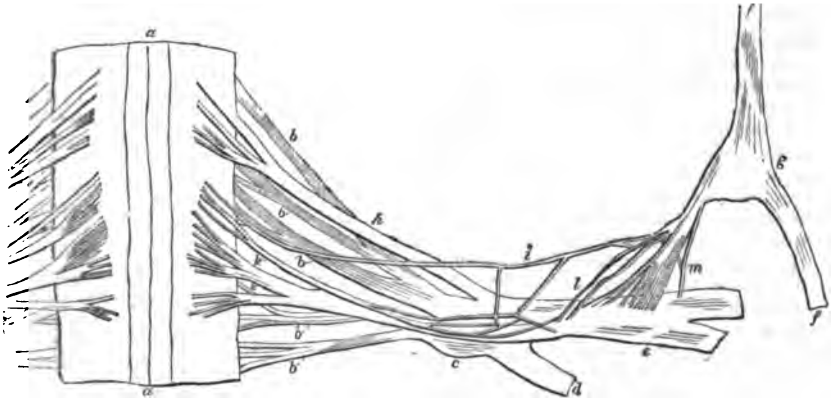
f, f. Part of the lumbar portion of the sympathetic nerve.

g. Second lumbar ganglion of ditto.

h. Anterior filament of the anterior root of the second lumbar nerve.

i. Branches connected with the lumbar ganglion by two twigs, and continued directly to the spinal cord. Two communicating twigs pass thus to the following branches.

k. Second branch of the anterior root of the second lumbar nerve, which receives



the two above-mentioned twigs of communication from the former, passing into *d* and *e*.

l. Two branches of the sympathetic extending to the ganglion spinale.

m. Twelve filaments of the sympathetic, which unite with the trunk *e*.

Acta Acad. Natur. Curios. Vol. xvi. Pars II.

MEDICINE,

PATHOLOGICAL, PRACTICAL, AND THERAPEUTICAL.

On Diseases of the Spleen, as they occur in India. By J. O. VOIGT, Physician to the Danish Establishment of Frederiksnagor (Serampore).

CHRONIC diseases of the spleen are so frequent and fatal throughout India, especially in the low marshy provinces of Bengal, that we have good reason to complain of the neglect with which they have hitherto been treated. Most writers on the diseases of warm climates either content themselves with merely mentioning them, or else despatch them in just as unsatisfactory a manner as the authors of general systems of medicine. Even Dr. James Johnson, in his excellent work on Tropical Climates, passes them over altogether; and Annesley's voluminous "*Researches*" and "*Sketches*," contain comparatively little on the subject. Mr. Twining, however, surgeon to the general hospital in Calcutta, has given, in the 3d vol. of the Transactions of the Medical Society of that city, a good treatise on Splenalgia.

The chief forms under which Dr. Voigt observed affections of the spleen to occur were, what he terms, *splenitis chronica, splenalgia congestionis,* and *lien ingens.*

Chronic splenitis displays a more or less clearly marked inflammatory diathesis, and is attended with pyrexia, considerable pain, and an uncommon degree of weakness: it chiefly attacks children of European origin, and those of rich natives, as well as persons of a more advanced age who are addicted to a stimulating diet; and appears to be principally seated in the proper membrane of the spleen. The swelling, in the first stage, is never very great, and often scarcely perceptible.

Congestion of the spleen (or splenemphraxis) shews plain marks of an atonic diathesis, and is not at all, or but to a trifling extent, attended with febrile symptoms; it does not occasion much pain, but causes a considerable tumour, which occasionally fills the whole of the epigastric and mesogastric regions; this disease most generally occurs among the natives, and is seated in the spongy parenchyma of the organ.

Enlargement of the spleen often occurs and continues for a considerable period without pain or injury to the constitution; it does not appear to be attended with any obstruction, and is observed mostly amongst elderly individuals of the natives.

1. *Chronic splenitis* generally commences with anorexia, restlessness, sleeplessness, and a peculiar irritability of mind, which is especially remarkable in children. They gradually lose all desire for play, wish to be constantly carried, hang the head, cry frequently, and manifest the greatest indifference to all that passes around them. After these precursory symptoms have continued for some days, and sometimes even two or three weeks, the essential symptoms of the disease begin gradually to appear. The face becomes pale, lead coloured, or sallow, and the conjunctiva of a pale bluish colour. The skin, especially of the abdomen, communicates a disagreeable sensation of heat and dryness, and the patient falls into a state of weakness greatly disproportionate to the duration and degree of the attack. The pulse is frequent and somewhat hard, and headach, a peculiar uneasiness, slight difficulty of respiration, palpitations, and occasionally pain in the left shoulder supervene. There is a constant feeling of tenderness and weight in the left hypochondrium, which is increased by pressure, and that often so much as to cause a loud scream. On examining the patient while lying on his back, and pressing with the fingers under the false ribs of the left side, a hard tumour is felt, which is greater or less according to circumstances, but is always of much smaller dimensions than in cases of splenalgia congestionis. The erect posture is uncomfortable to him; he likes best to lie on his left side, with the body somewhat curved. Although the tongue is moist and clean, he complains of thirst, and, after his meals, of gastrodynia, flatulence, and *ardor ventriculi*. The bowels are very irregular, but generally costive; the fæces are brown, green, or sometimes black; and the urine is pale and copious. After an uncertain period, the disease terminates either in recovery, or by passing into other diseases and causing death.

2. *Splenalgia congestionis* is the most usual of the chronic spleen diseases prevalent about Serampore. Its most remarkable precursory symptoms are lassitude, heaviness, a dislike to any kind of exertion, weakness, costiveness, and a sense of heat in the left hypochondrium. These are followed after some time by a tumour in the region of the spleen, which, though tender to the touch, is by no means so much so as in chronic splenitis. On the other hand, its bulk increases to such a degree that it generally occupies the entire of the left hypochondrium, and of the epigastrium strictly so called, and sometimes of the epigastric and mesogastric regions. The skin is dry and cold, and the cutaneous veins of the abdominal region are considerably dilated and present a reticulated appearance. The patient experiences an indescribable lassitude and weakness, together with vertigo; the lips and gums lose their colour; and the face becomes dingy, sallow, and cachectic. The bowels are tardy and constipated; the fæces dark coloured; the urine pale and copious; the pulse small and feeble; the tongue generally clean and moist, and the appetite good and sometimes even voracious; but the *process of* assimilation goes on very imperfectly. In proportion as the strength diminishes, the flatulence, anxiety, and irritability increase; the extremities are reduced to skin and bone; cough and dyspnœa set in, and the feet become œdematous. *The pulse* is sometimes quickened towards evening, and the patient then suffers from an insupportable inward heat, which prevents sleep. He cannot bear to lie upon his right side, and sometimes not even on his back, but finds lying on his left *side* with the body curved the least uneasy posture. When walking, he generally bends to the left, and supports the left hypochondrium with his hand. The disease in females is generally attended with amenorrhœa. These symptoms, which, with a few exceptions, appear in every case of simple congestion of the spleen, continue till the disease is removed, or terminates in others, and eventually in death.

3. *Enlargement of the spleen* is generally observed amongst elderly natives, and is undoubtedly in most cases a sequela of mild intermittent fevers. The tumour is soft, not of very great magnitude, bears pressure, and produces no inconvenience except a sensation of weight. It does not appear probable that there can be any obstruction existing in such cases, which probably are of the same nature as those

mentioned by Regia (Specim. observat. anat. and pathol. Ticin. 1784), in which, according to that author, the vessels can be beautifully injected.

The cachexia connected with *splenalgia Bengalensis* frequently manifests itself by a malignant ulceration, the disposition to which is so great that leechbites and blisters occasionally give rise to foul or phagedenic ulcers, which, in cases where mercury has been employed, and the patient is in a swampy situation and debarred from free access of air, occasionally terminate fatally. *Stomacace* also, both simple and scorbutic, often occurs among the poorer natives; and, although most authors recommend mercury in splenalgia, it is an indisputable fact that even a very small quantity (a few grains for instance) generally occasions a profuse salivation, and occasionally so violent a *stomacace mercurialis*, that mortification sets in, the teeth drop out, the bones become carious, and death ensues.

We have given the description of the symptoms thus at length, as well because it is the most circumstantial that we have met with, as that it may have the effect of inducing the profession in those countries to pay more attention to diseases of the spleen than they have hitherto done. From contemplating a disease in its most exquisite form, as existing where circumstances are most favorable to its development, we are the better able to judge of its pathology, and of its bearings in various respects; and it is not unlikely that, even in this country, many symptoms, generally attributed to dyspepsia, &c. may arise from a milder form of the chronic splenitis above described. We learn too that this disease may exist to a considerable extent without producing any very perceptible tumour; and on the whole it is not unreasonable to conclude that a chronic morbid action, sufficient to produce considerable uneasiness and constitutional disturbance, may be going on in the spleen, for some time, without giving rise to any symptoms of such a nature as to lead us to suspect its seat to be in the organ.

As the author, on account of the prejudices of both natives and Europeans, has not had the opportunities that English medical men attached to the army or to hospitals in India have enjoyed, he is obliged to refer to them for a description of the appearances observed in the spleen after death. Proceeding next to the etiology of the disease, he contradicts Annesley's assertion respecting its comparative infrequency in India, and states that, at least in Bengal, the case is quite the reverse, both according to his own experience and that of Mr. Twining. The predisposing causes he mentions are: 1, season; splenalgia, though occurring at all times of the year, being most prevalent towards the conclusion of the periodic rain, and at the commencement of the cold season: 2, age and sex; children and delicate young men being most subject to it, while elderly persons, and women after puberty, are comparatively exempt: 3, low swampy situations, overgrown with jungle: 4, perhaps sol-lunar influence.

The most usual occasional causes are: 1, tedious remittent and intermittent fevers: 2, want of exercise and of proper clothing, unwholesome diet, and intemperance in eating; these causes often produce an idiopathic splenalgia among the natives: 3, abuse of stimulants, especially arrack: 4, opium-eating: 5, everything that has a tendency to debilitate the system in general, and the digestive system in particular; such, for instance, as depressing passions, &c.: 6, external injuries, such as contusions from falls; but this cause does not often come into play.

In speaking of the proximate cause of splenalgia, there is a remarkable coincidence in opinion between the author and Dr. Hodgkin, in his Essay on the Uses of the Spleen. After stating that it has been proved by the experiments of Defermon on animals, that the spleen is capable of admitting a considerable variation in its size, and that its vessels can bear to be greatly dilated for some time without producing any local or general obstruction, he proceeds to observe that it is evident that, under particular circumstances, in the cold stage of intermittent fever for instance, there is a large quantity of blood thrown in upon the abdominal viscera, which would have a most destructive effect upon the more important organs, if the spleen, from its spongy and elastic texture, were not adapted to serve as a temporary reservoir for a considerable portion of the superabundant fluid: and that repeated and prolonged congestions of this description must, in persons who have been exposed to miasmata and other debilitating causes, produce a state of irritation of the organ which may terminate in chronic inflammation, or in an incurable induration.

Treatment. The disease is always difficult to cure, mostly very obstinate, and frequently fatal. Accordingly Dr. V. describes, at a length commensurate with the difficulty and importance of the subject, the treatment that has been found most successful in its different forms; and makes some useful practical remarks on the inconveniences attending other modes that have been proposed by different individuals: the use of mercury, for instance, he most strongly reprobates. The measures he recommends, besides attention to the diet, &c., are to attack the inflammatory symptoms, when such are present, by leeches, gentle purgatives, tepid baths, and the application to the region of the spleen of a cloth dipped in nitro-muriatic acid considerably diluted with water, and covered with an emollient cataplasm; both to be frequently changed.

The febrile irritation and local inflammation once removed, the next indication is to endeavour to diminish the bulk of the spleen. This is most likely to be effected by the continued use of purgatives combined with tonics, and by certain topical applications. He considers the preparations of iron in general, and the sulphate more especially, to have some specific influence on the spleen; but advises caution in its application, as an overdose readily produces cardialgia, gastrodynia, vomiting, and diarrhœa; and it is absolutely contra-indicated where there is any febrile irritation present, as well as in hepatic, pleuritic, and dysenteric complications. The other internal remedies are aloes and myrrh, combined with senna, gentian, carminatives, diuretics, and diaphoretics; nitric acid; and tartar emetic in small doses. The topical applications are, friction with the flesh-brush; nitro-muriatic epithems; small blisters; stimulating liniments to the abdomen; and moxas.

The treatment of chronic splenitis or of congestion of the spleen, difficult enough when they are simple, is rendered still more so by their complication with *other* diseases. For instance, in *splenalgia hepatica*, mercury, though indicated for the liver, cannot be employed, as it increases the spleen disease.

In another part of the paper Dr. Voigt makes the following remarks on the terminations of splenalgia. "In Bengal, it rarely runs on to suppuration, but, when not fatal, it generally terminates in induration, if not cured in time. The febrile symptoms then disappear, and the pain in the left hypochondrium is much diminished, but the tumour remains and becomes hard and distinct. The health improves, and, with the exception of costiveness, a sensation of fulness and weight under the left false ribs, a dry cough, some dyspnœa, and occasionally a slight pain shooting to the scapula, the patient feels pretty well, and may live on for many years in that condition. He is however generally predisposed by it to fever, liver complaints, dysentery, dropsy, and cholera, by some one or other of which he is at last carried off. Splenalgia, especially when complicated, sometimes runs its course very rapidly, and may terminate in death in three weeks or a month. Œdema of the feet and legs, ascites, dysentery, ecchymoses, a malignant stomacace, and singultus, are the general precursors of death in subacute cases, whilst obstinate diarrhœa and hectic close the scene in the most usual form, splenalgia *congestionis*. Persons who have once had chronic disease of the spleen are very liable to be attacked by it again.—*Bibliothek for Læger, No.* 2, 1334. Copenhagen.

On the Use of the Ballota Lanata (Linn:) in the cure of Rheumatic, Arthritic, and Gouty Affections. By Professor V. L. BRERA.

AFTER some questionable remarks on the pathology of rheumatic and gouty diseases, which the author considers to arise from "a supersaturation of the blood and fluids with a morbific matter," and which is relieved by the deposition of its superfluous portion in various parts of the system, under the form of stone, gravel, and other calculous concretions, the author comes to the conclusion that, by the removal of this matter as fast as it is generated, the indications of cure will be fulfilled. He therefore recommends the use of such remedies as free the system from its load by increasing the secretions from the skin, kidneys, &c., and he considers that the ballota lanata is "the most efficacious plant to supply the blood with what is required to relieve it from this morbid supersaturation, and to prevent its reproduction." This plant was found by Pallas and Gmelin in frequent use in Siberia for the cure of dropsy. Rehman, a Prussian physician, introduced it to the notice of Brera, and supplied him with the genuine plant, which he has found of the greatest service in removing by the kidneys dropsical effusions dependent upon visceral congestions.

Finding that many of these cases were connected with gout and rheumatism, he tried it in those diseases also: in which its effects surpassed his expectations; and several other physicians have met with similar success from its use. The results of a number of cases are mentioned; but the following is the only one the details of which are given.

The patient was a sapper and miner, who, from exposure to cold while heated, became affected with most excruciating pain in the pectoralis and mastoid muscles of the right side, and radiating from thence to the dorsal and lumbar muscles. By the use of saline purgatives and diaphoretics, fomentations, prussic acid washes, and oil of hyoscyamus liniments, with tepid baths, the pains were alleviated, without being entirely removed. In the summer of 1831, after two years' illness, the disease increased in violence, and the pains extended to all the joints and to the muscles of the thighs, so that he was unable to raise his arms, close his hand, or move his legs or feet. On September 3d, he began to take the ballota in decoction, made by boiling half an ounce in a pound of water down to eight ounces; the whole to be taken daily. The night following he could not sleep for a burning heat over his body, which about daybreak terminated in a profuse perspiration accompanied by some delirium. With the appearance of the perspiration the pains quite ceased, and he remained at ease the whole of the 4th. He repeated the medicine at night, and the sweating and delirium were more violent than before, but lasted a shorter time. The remedy was repeated the third day, and that night the (critical?) symptoms were much abated. He next experienced a constant and earnest desire to make water, of which he passed a great quantity, fetid, and of a deep reddish orange, and depositing an abundance of sand of the same colour. The pains diminished so much that on the fifth day he got up, and went out of doors on the eighth. The same day the dose of the ballota was increased two drachms, and he continued to take the eight ounces daily, in two doses. The amendment now proceeded more rapidly, so that, on the 20th September, the seventeenth day of treatment, he had recovered the full powers of his body, with an appetite which he had not felt for above a year.

The ballota lanata is indigenous in that part of Siberia which adjoins the Chinese empire. Gathered while flowering, it is brought by the Russians in bales covered with furs. The whole plant is used in medicine. Its smell resembles that of tea; the taste is sharp and bitterish. The cold infusion is not quite clear, and has a greenish yellow colour. The plant imparts all its active properties to weak spirit.

Decoction is the best form of this medicine. It is made by boiling for a quarter of an hour in an unglazed vessel half an ounce of the plant, with as much water as when strained shall amount to eight ounces; this is to be taken at four doses in the twenty-four hours: of course the strength of the decoction must be regulated according to circumstances. It is essential that it should be the Siberian ballota, the effects of that cultivated in gardens being far inferior.

The diuretic powers of the ballota lanata are confirmed by the results of three cases related in the same journal by Dr. Luzzate. The first was anasarca after rheumatism; the next was anasarca after four bleedings for acute bronchitis, in a patient seventy-three years old; the third was rheumatism after delivery, with (milk?) fever.—*Antologia Medica*. No. II. Febbrajo, 1835.

Alum in Typhoid Fevers.

Professor Fouquier, one of the physicians of La Charité, is in the habit of prescribing alum, with considerable success, in certain cases of typhoid fever. When the inflammatory symptoms which generally mark the commencement of fever are succeeded by the symptoms peculiar to typhus, such as weakness of the pulse, fixed and dull expression, diarrhœa, acrid heat of the skin, &c., alum is advantageous. If inflammatory symptoms should re-appear, its use is again counteracted; so it is if the bowels (which rarely happens in the second stage,) are constipated; but with these exceptions it may be confidently given, although the most serious nervous symptoms are present. In the stage of collapse, when there is excessive prostration of strength, colliquative diarrhœa, sordes covering the mouth, and fœtid excretions, alum, either alone or with other remedies, acts very beneficially. The diarrhœa diminishes, the tongue becomes moist, and the strength improves. The dose is twenty-four grains daily for three or four days, then increased to half a drachm, and after the same interval to a drachm: when its good effects have been produced, the dose is to be diminished in the same proportion. Gum-water is a suitable vehicle: it may be given in pills, but a solution is preferable.

Bulletin général de Thérapeutique, Novembre, 1835.

On the Treatment of Croup by Sulphate of Copper. By K. G. Zimmerman, M.D.

The sulphate of copper was first recommended in croup by Hoffmann, (1821;) who prescribed it in the dose of a quarter to half a grain every two hours, and during sixteen years did not lose, according to his own statement, a single patient. Serlo treated from forty to fifty patients with sulphate of copper, and four only died: after venesection, he gave three or four grains as an emetic; following this with a quarter of a grain every two hours. Such was also the treatment adopted by Dr. Zimmerman, except that he generally applied leeches, and only bled from the arm when inflammatory symptoms ran high. He gave the sulphate of copper to fifteen children labouring under well-marked symptoms of croup; and, although the disease in some was very intense, in others far advanced, only two in the fifteen were lost.

Cases. 1. A boy, aged three years, was seized with symptoms of croup, March 9th, 1830. He had had a cough and hoarseness for several days; after exposure to a north-east wind, the symptoms became more severe, and on the evening of the 9th respiration became "crowing." Twelve leeches were applied to the neck, and a quarter of a grain of the sulphate of copper, with sugar, was ordered every two hours. On the 10th, twelve more leeches were applied in the morning. The danger increased, so that in the evening the dose of copper was augmented to half a grain, and twelve more leeches were applied.—11th. One grain of sulphate of copper was given every two hours.—12th. The child died at nine o'clock in the evening, on the fourth day of the disease.

2. A boy, six years old, seized on the 19th of March, took a quarter of a grain of sulphate of copper every two hours, till, after repeated vomitings, all the symptoms of croup disappeared on the 20th. On the 23d, the fifth day of the disease, the boy was perfectly recovered.

3. A stout boy, one year old, was attacked by croup on the 4th of April: leeches were applied to the neck; a quarter of a grain of Cupri Sulph. was given every two hours, and, although this was followed by vomiting every time, eight doses were administered, when the respiration was relieved. The hoarseness gave way on the 13th, the tenth day of the disease.

4. A blond, scrofulous boy, aged three years, had an attack of croup on April 13th: there was a sudden invasion of laryngitis, and the cough was crowing rather than barking. Six leeches over the trachea, and a quarter of a grain of Cupri Sulph. every two hours, were ordered: each dose excited vomiting, but the disease did not yield till the 15th, the fourth day. The hoarseness continued till the eighth day of the disease, when the recovery was perfect.

5. A strong boy, four years old, seen at the commencement of the disease, recovered by taking the sulphate of copper, without previous bleeding. The medicine was, as usual, followed by vomiting.

6. A lively boy, aged six years, seized in the night of the 27th of April, 1833, was not seen till the evening of the 28th, when the symptoms were very intense, —those of laryngitis and tracheitis combined. Venesection to three *tasses* (cups), twelve leeches, and Sulph. Cupr. five grains, were prescribed immediately. At eleven o'clock, sixteen more leeches and a blister were applied; Cupr. Sulph., a quarter of a grain, was administered every two hours: the first powder was followed with relief. On the 30th, the third day of the disease, all the symptoms, except the hoarseness, were gone, which only remained till the ninth day.

7. The same boy had another attack of laryngitis on the 12th of January, 1834; he recovered, under the same treatment, on the 16th.

8. April 27th he had a slighter attack, cured by Cupr. Sulph. alone.—30th. He was quite well, and has not had another attack.

9. A weakly boy, aged six years, had been unwell a week, probably with measles; had a decided attack of croup on the 11th of October, 1833. On the 13th, twelve leeches were applied to the neck; four grains of the sulphate of copper were prescribed, and given afterwards in half-grain doses: in the evening, twelve more leeches and an emetic were prescribed. The Cupr. Sulph. was omitted on the 14th, and five of sulphur were prescribed, &c.; the copper was resumed in the evening. He died on the evening of the 15th, the sixth day of the disease. The trachea and larynx were examined: the mucous membrane was pale, soft, and a few of the vessels were injected; the bronchi appeared filled with a purulent mucus. A younger brother had measles five days afterwards.

10. On the 20th of April, 1834, (a year afterwards,) this brother, now four years old, had an attack of laryngitis. Leeches and the sulphate of copper were employed, and in a few days he was restored.

11. A red-haired strong boy, four years old, seized with croup at 10 P.M. on the 28th September, took the sulphate of copper, and had leeches applied twice: he recovered on the third day of the disease.

12. A delicate blond girl, four years old, had a sudden seizure of laryngitis, from which she recovered in twenty-four hours, after taking four grains of sulphate of copper.

12. A child, one and a half year old, recovered on the second day, after six leeches, Cupr. Sulph. four grains as an emetic, and a quarter of a grain every two hours, had been employed.

Dr. Zimmerman concludes that the sulphate of copper is a very valuable remedy in croup, particularly when conjoined with leeches and blisters. Where there are bronchitis and tracheitis, calomel is preferable; but, in simple laryngitis, the sulphate of copper is advantageous in the majority of cases.

Hufeland and Osann's Journal, p. 38—81, B. 2. 1835.

On Turpentine in Sciatica. By M. DUCROS, Jun.

M. Ducros has frequently found sciatica, which had resisted the ordinary means, yield to enemata, containing a large dose of the essential oil of turpentine. He has related several successful cases. In one instance, the pain yielded to one enema, containing an ounce of the oil of turpentine: in another, six lavements were administered in three days, when the neuralgia gave way; in a third, the quantity was raised to two and a half ounces in each lavement; in a fourth, the lavements were continued for a fortnight. [We know nothing of the practice ourselves.]

La Lancette Française, No. 110, 15 Sept. 1835.

On Purulent Metastasis. By Dr. R. FRORIEP.

Dr. Froriep is of opinion that the materials going through the capillaries to the blood are in a state of solution, and do not contain globules; for the porosity of the membrane is not sufficient to permit the passage of globules of pus: so that the appearance of such globules must be coexistent with the effusion of matter. Hence it is incorrect to suppose that a direct discharge of globules of pus takes place in the sac of the pleura, the peritoneum, or the cavity of the arachnoid, as is said, in purulent metastasis; and it is equally erroneous to imagine that, when pus ceases to be secreted from the surface of a sore, it has been transported in the current of the circulation, and deposited in some internal organ, where inflammation is going on.

The mechanism of the formation of the so-named purulent metastasis is as follows: if, during the presence of external suppuration, by any contingency, inflammation comes to be kindled up in some internal organ or other, in consequence of the pre-existing affection it is prevented from displaying the ordinary characteristic train of symptoms; but, attaining imperceptibly its full development, ultimately gains the ascendancy of the previously existing suppurative process, in which the discharge is suspended, while the vicarious inflammation, acting upon an organ already enfeebled by disease, pursues a rapid course towards a purulent termination.

In support of this mode of explanation, Dr. F. refers to what has been frequently observed, under such circumstances, on post-mortem examination; particularly in those cases where no deposition of pus is discoverable,—merely a serous exudation, or simply the phenomena of incipient inflammation without the effused products.

In accordance with this view, it is plain that a tonic and stimulant treatment, for the purpose of compelling the pus to flow internally, as is vulgarly said, can only serve to augment the mischief commencing. The measures pursued must be antiphlogistic, proportioned to the strength and constitution of the patient.

Wochenschrift f. d. Heilkunde, No. 8. *Berlin,* 1834.

On the proper Temperature of Sinapisms.

THE volatile oil, on which the stimulating properties of the powdered seeds of mustard depend, is not disengaged or formed unless water is added to them; but it has been imagined that very hot water was preferable to cold. M. G. Faur. sen. has proved, by many careful experiments, that this is not the case, but that water, when heated to 190° (F.) and upwards, prevents the disengagement of the volatile principle of mustard: consequently, that sinapisms should be made with cold water, and for foot-baths the powdered mustard should be first mixed with some cold water, to which boiling water should be added, to raise it to the necessary temperature. By one of those coincidences which are not uncommon, the same facts have been simultaneously discovered by MM. Geiger and Hesse in Germany. The most satisfactory rationale is, that the sudden heat coagulates the vegetable albumen which forms a coating to each molecule, that prevents the water acting upon it. All causes which coagulate albumen produce the same effect, such as alcohol, strong acids, &c. Cold water, on the contrary, dissolves the vegetable albumen. *Journal de Pharmacie, Septembre,* 1835.

On Salicine as a Substitute for Quinine.

[THE following cases were treated at the medical *cliniques* of Prague during the years 1832 and 1833, and are reported by DR. A. M. PLEISCHL, Professor of Chemistry. As they are authentic and satisfactory illustrations of the therapeutic agency of a remedy but little known in this country, we give an abridged translation of them.]

CASE I. The patient, a weekly girl of fourteen, was attacked with ague on the 12th of May, 1832. As there were symptoms of congestion of the liver and spleen, leeches, &c. were employed; and, on the 26th, the salicine was given in the dose of two grains every two hours; but as this did not suffice, after the third attack the dose was increased to four grains every two hours; after which there was no paroxysm. As the liver and spleen were still tumid, the salicine was continued, together with a decoction of tamarinds containing cream of tartar; poultices were also applied to the parts, and the patient was discharged cured on the 16th of July.

CASE II. A strong female servant, aged twenty-two, and of a sanguine temperament, was attacked by convulsions during the sixth month of pregnancy, and then by a tertian ague. She was treated with the sulphate of quinine in very large doses, but without permanent advantage. The quantity given at last was five grains every hour, with one-sixth of a grain of ipecacuanha. An intermittent hematemesis now set in; and, as this, though mitigated, was not cured by opium, it was thought right to omit the quinine, and give salicine instead. The dose was five grains every three hours; and, although there were still three fits of hematemesis, the last two were hardly worth mentioning, and the patient was cured of her obstinate intermittent. For fear of a relapse, the salicine was continued for several days: the patient took in the whole about six drachms.

CASE III. A youth of eighteen was cured of a tertian ague, under which he had laboured for three weeks. After an interval of a fortnight, he had another attack, which his physician quelled by an emetic. Ten days had scarcely passed away, when he was attacked for the third time. The paroxysms were irregular, and, as opium was given in vain *in scopum prævertentem*, four grains of salicine were ordered to be taken every four hours during the day of intermission. The next attack was anticipatory, being an hour earlier than its time: there were no premonitory symptoms; the cold stage was much shorter and milder, lasting barely half an hour; the hot stage lasted four hours, and was succeeded by a profuse sweat of three hours' duration. The salicine was continued. The second paroxysm consisted of a rigor, followed by gentle heat of scarcely fifteen minutes' duration, and a sweating stage of three hours. This was the last fit, and there was no relapse.

CASE IV. A robust servant girl, aged twenty-two, had suffered for several months from a violent cough, which tormented her especially before daybreak. She then had a gastric tertian fever of an anticipatory type; and, having committed an error in diet during her convalescence, had a relapse. The gastric symptoms being now quieted, but the fever remaining, she was ordered four grains of salicine three times a day; and took three of these powders on the day of intermission likewise. The next paroxysm was slight, and was the last. She took in the whole fifty-six grains of salicine, and had no relapse afterwards.

CASE V. An active servant girl, aged twenty-four, with a proclivity to congestions and inflammations, after an error in diet was attacked with a tertian ague complicated with considerable gastric symptoms. On each day of fever there were two paroxysms; the first took place on the 9th of May, and on the 20th the patient entered the medical *clinique*, having had six days of fever, and twelve paroxysms.

While measures were taken against the gastric symptoms, the fever made its attack on the morning of the 21st, the evening paroxysm was slight and transient. The patient was now ordered to take three grains of salicine three times a day: the ague did not return, but the salicine was continued for a few days to guard against a relapse, and with the desired effect.

CASE VI. A servant, aged thirty-nine, who was labouring under acute ascites, was attacked during its course by a headach, which returned at the same hour every day. It was a pressing and tearing pain in the frontal and temporal regions. The patient complained besides of heat in the head, palpitation, and exhaustion. The skin was very hot, and the pulse somewhat quickened, but no other symptom of fever was present. Four grains of salicine given in the evening, and the same quantity the next morning, made the subsequent attack very trifling indeed; but still the remedy was repeated once more. The patient remained free from headach for five days, and then had another paroxysm, which was subdued by salicine, as before. Five doses, of four grains each, proved sufficient to master this intermittent headach, and prevent any relapse.

CASE VII. A servant girl, aged twenty-eight, who had twice suffered from ague, which had left a tumid liver, was attacked with very violent headach during the course of an *Impetigo erysipelatodes*. It returned every day at the same time, and lasted for six hours. The salicine, which had shown its efficacy in this form of disease, was given in five-grain doses in the evening and in the morning before the paroxysm. There was one more paroxysm, and afterwards a mere shadow of one, and the two powders having been again administered, the headach returned no more.

Case VIII. The patient was an athletic coachman, aged thirty-six, and was afflicted with intermittent face-ache. The pain followed the ramifications of the ophthalmic portion of the fifth pair of nerves. He had suffered from this frightful disease twice before during the last six years, and this, the third attack, was owing to taking cold after recovering from the influenza. At seven o'clock every morning the following precursory symptoms made their appearance: formication, following the course of the above-mentioned nerve on the right side; anxiety; general increase of warmth; exhaustion, and throbbing headach. There soon came on the most violent cutting, tearing, and pricking pains, particularly in the course of the frontal nerve, and the pain gradually extended itself over the whole right side of the face. The patient tossed about in his agonies, and had a horror of being touched, especially above the eyebrows, and even avoided speaking, as it increased his pain. He complained of transient stabbing pains in his eye, and it seemed to him as if the eye was pushed out of the orbit; the intolerance of light was so great that he closed his eyelids almost convulsively, and the pain was unbearable if they were opened by force; in addition, the secretion of tears was increased, and the paroxysm was accompanied by perfect blindness, which gradually went off afterwards. The whole face was distorted and flushed, with an increase of *turgor*, the pulse, too, was somewhat quickened, and the skin hotter than usual, but no other disturbance of any system. The symptoms continued to decline till towards noon, and in the afternoon the patient was quite well. Leeches had been applied to the right temple, and an anti-rheumatic regimen adopted at the patient's dwelling, but without success. The patient being now in the practical school, the salicine was administered; four grains being given in the evening, and four more in the morning before the attack. After two paroxysms the doses were doubled. The next paroxysm was mitigated both in severity and duration; yet, with the hope of preventing the following paroxysm entirely, three eight-grain doses were now exhibited, one at eight in the evening, one at six in the morning, and one just before the usual hour of the attack. Some slight pain still remained, and therefore the quantity of salicine was increased to half a drachm divided into three doses, which were taken within twenty-four hours. A more violent paroxysm followed, upon which two scruples were given, which prevented any farther attack. The patient left the hospital perfectly cured.

These cases are remarkably satisfactory, and would seem to show (the second especially) that salicine is far from being a mere substitute for quinine. Dr. Pleischl enters into some details concerning the prices of salicine and the sulphate of quinine, and observes that the latter is more than twice as costly as the former. He concludes by asserting, that, even if salicine were much the dearer of the two, it would be better to use it, because it is of home manufacture, and can be got in war as well as in peace. *Medicinische Jahrbücher des K.K. ö. Staates,* 1838.

Case of Poisoning by Arsenic, successfully treated by the hydrated Tritoxide of Iron.

By M. Geoffroy.

F., æt. 36, hairdresser, during an attack of delirium tremens, took from his desk a paper which contained arsenic, threw the poison into a glass, poured water on it, stirred it up with his finger, and drank it. Finding that some of the poison remained in the glass, he added more water, and was about to drink it, when one of two persons who were in the room, wishing to see what he was drinking, looked at the paper from which he had taken the powder, and seeing that it was marked arsenic, endeavoured to prevent his drinking it, but did not succeed; and he not only swallowed the liquid, but put into his mouth, with his finger, the powder which remained in the glass. M. Geoffroy arrived immediately afterwards, and, on discovering that arsenic was contained in the paper, ordered several glasses of sugared water to be given immediately, and procured, as soon as possible, some hydrated tritoxide of iron. In twenty minutes this was obtained, and four or five pints of warm or cold water, charged with it, were given in a quarter of an hour. This produced copious vomiting and a large stool. For the next seven or eight hours this treatment was continued, and the patient vomited and was purged three times. There was neither colic, heat in the throat, nor any symptom of poisoning; he complained of cramps in the fingers, and during the whole time was delirious, talking and gesticulating. The quantity of drink was then diminished: he slept during the night, and in the morning appeared well.

It was ascertained that he had swallowed a drachm and a half at least of white arsenic. From twenty to twenty-five pints of water had been given, in which was suspended the oxide of six ounces five drachms of the sulphate of the tritoxide of iron.

[This is a valuable case, as there was no doubt of the enormous dose of poison taken.] *Journal de Médecine et de Chirurgie pratiques. Sept.* 1835.

Hydrated Peroxide of Iron as an Antidote to Arsenic.

MM. Bineau and Majesté, of Saumur, relate the following cases, to prove the efficacy of the hydrated peroxide of iron as a counter-poison to arsenic in the human subject. On the 13th of August last, about two o'clock, five little girls, on leaving school, ate part of a cake, containing one-fifth of its weight of white arsenic, which had been prepared to kill rats.

L. D., æt. 7, who had eaten a piece weighing about two drachms, had, half an hour afterwards, pain in the throat, a sensation of strangulation and vomiting, succeeded by pains in the belly, great thirst, faintness, incessant restlessness, and spasms. Dr. Bineau saw her at four o'clock: she had then vomited five times, and rejected sugared water and milk which she had swallowed. He gave her one grain of tartar emetic, which produced vomiting and two stools. In an hour he had prepared the tritoxide of iron, and by nine o'clock he had given five ounces, in divided doses. During this period she vomited five times, and had one black fœtid stool: there were stupor and slight convulsions of the limbs. At ten o'clock these symptoms were relieved; she slept quietly, and was well the next day.

M. G., æt. 5½, swallowed about three drachms of the cake, and a quarter of an hour afterwards vomited. Between this time and five o'clock she vomited twenty times, and rejected all fluids. After vomiting, faintness and depression, followed by extreme restlessness, pain over the whole body (particularly in the belly and legs), cold perspirations, livid face, great thirst. At four o'clock there was great and constant stupor, without loss of intelligence. At five o'clock, M. Bineau administered five or six drachms of the hydrated tritoxide of iron, and repeated the dose frequently at first, and gradually increasing the intervals until ten o'clock. During this time she vomited only three times, and the pain ceased; but there was constant and alarming stupor and depression. At ten o'clock the pulse rose, and at four she slept naturally. In the morning she had two stools. No subsequent symptom.

The other three cases were treated by M. Majesté.

Marie B., æt. 7, and Louise, her sister, æt. 5, each ate about two drachms of the cake. At four o'clock M. Majesté saw them: the face of the eldest was contracted, pale or livid, eyelids injected, great thirst, very hot skin, pulse 120, belly tympanitic and painful, particularly the epigastrium, general depression, and constant vomiting and purging, since the poison had been taken. The symptoms of the younger were rather milder. M. Majesté returned to his dispensary, and in less than an hour prepared twelve ounces of the hydrated tritoxide of iron, and he gave to each two ounces at four doses, in twenty minutes. The vomiting ceased, but returned in an hour, when he gave two ounces more at longer intervals, and a lavement with half an ounce. At eight o'clock the vomiting returned with colic, and an ounce was given to each, with half an ounce in a lavement: the vomiting ceased, and did not return. They passed a good night. With the exception of some little intestinal irritation, and an eruption in the eldest, which yielded to simple treatment, there were no other symptoms.

The other child, aged 9, was less violently affected. The vomiting ceased on taking the antidote, and in eight hours after the attack all danger was over.

Remarks. The remedy was prepared in the following manner:—One ounce of iron filings, with four ounces of nitric acid and four ounces of muriatic acid, were introduced into a large glass vessel, and subjected to a gentle heat until the iron was dissolved; to this solution sixteen ounces of cold distilled water were added, and after some minutes the metal was precipitated by introducing two or three ounces of liquid ammonia. The vessel was then filled with common water, agitated, and the whole filtered. This left about twelve ounces of the hydrated tritoxide of iron. A teaspoonful of this weighed about an ounce. The process occupied about an hour, and it was immediately repeated. Its action as an antidote was evident. The dose in each case was very large, above thirty grains of arsenic: and, although vomiting took place, yet a much smaller quantity has been often known to kill, although there was vomiting. The symptoms were always immediately relieved by the iron. The antidote itself appears harmless, as from four to six ounces were given to each child without any ill effects; and, as this is the case, it is advisable, even long after the poison has been taken, to estimate the quantity rather by its effect on the symptoms, than by any proportion to the poison. It is advantageous that this antidote is tasteless.

Journal des Connaissances Médico-Chirurgicales, Novembre, 1835.

Fumigations in Hooping-Cough.

Dr. Dohm, of Heide, in the duchy of Holstein, has accidentally discovered a remedy for hooping-cough, that promises to be of considerable use in that too-often obstinate and dangerous disease. Two of his own children, a boy and a girl, (the former one, and the latter three, years old,) had been suffering from hooping-cough for between two and three months; during which time several remedies, including belladonna, had been tried in vain. The paroxysms were very frequent and extremely violent, so that the fæces and urine used sometimes to be expelled involuntarily. An accident of this kind occurred one evening during the absence of the father; and, to remove the ill smell thereby occasioned, the bedroom was fumigated, and that to such an extent that the child was enveloped in the smoke. Contrary to the expectation of the doctor, the child had not another attack that night; the cough became much milder, and the repetition of the same treatment soon cured it. This encouraged him to try it in other cases, and he invariably found the paroxysm greatly relieved by it, if not completely stopped. The fumigation was made with the common *species fumales* of the Pharmacop. Slesvico-Holst. (Olibani libr. duas, Benzoes, Styr. Calamitæ, sing. libr. dimid., Flor. Lavendul., Rosar. rub., singul. unc. quatuor.) He [we think, very justly,] considers the benzoin to be the most efficient ingredient.

Pfaff's Mittheilungen, 1ste Jahgr., 1 und 2 Heft.

SURGERY.

On the Nature and Treatment of the Vertebral Disease of Pott. By M. Richet, first Surgeon at the Hôpital de la Charité at Lyon.

The present essay consists of a well-collected series of cases illustrative of the vertebral disease of Pott, the appearances of which, on examination after death, are very minutely detailed. We must limit our extracts to the conclusions which M. Nisbet has drawn from these cases, in which he endeavours to establish the fact that the spinal disease bearing the name of Pott is tubercular, and to show that hitherto a partial or incorrect view has been taken of its pathology. We may select the following example from his numerous cases, as exhibiting the chief peculiarities of the morbid anatomy of this affection.

A man, aged 20, two years previous to his admission to the hospital, had been affected with a painful swelling between the last dorsal and first lumbar vertebræ. There was great feebleness, but perfect sensation in the lower extremities. Slight but temporary relief followed the application of cauteries to the swelling: the paralysis returned. The lower extremities became œdematous; ascites; commencing gangrene about the right spine of the ilium; increased pain in the loins, with complete paralysis of the lower limbs, terminating in death, five months after the admission of the patient.

Dissection. The anterior common ligament in front of the bodies of the last five dorsal and first two lumbar vertebræ was elevated an inch, by thick, yellow, viscid, tubercular matter. The first lumbar vertebra was destroyed,' excepting a small fragment attached to the healthy intervertebral cartilage of the last dorsal vertebra. The second lumbar vertebra was reduced to half its thickness; the last five dorsal vertebræ were filled with crude tubercles, their cavities communicating in front with the tubercular cyst, and with one another in the bodies of the vertebræ. From two vertebræ the matter had escaped into the spinal canal, and had depressed the posterior common ligament, the membranes, and the chord. Tubercular matter had infiltrated the seventh dorsal vertebra; the body of the bone being easily cut, and the surface of the incision of a yellowish white colour. The five last vertebræ, freed from their tubercular matter, appeared rough and like shagreen; their surfaces hollowed, and the concavities subdivided by sharp, longitudinal partitions, some of which were thin and full of apertures. Their texture was however hard, and sounded when struck in a manner quite different from a carious bone. A thin cellulo-vascular membrane, of a deep red colour, lined their cavities. The back part of the third lumbar vertebra contained a large cavity full of tubercular matter, which also filled the corresponding part of the vertebral canal, pressing backwards the dura mater. From this point to the middle of the back, the dura mater and arachnoid were of the colour of the dregs of wine; the spinal marrow was sound. The intervertebral cartilages were healthy. The ribs corresponding to the diseased vertebræ were soft, flexible, and contained a dark fluid. Tubercular matter, in smooth cysts, was deposited in the neighbouring parts, and particularly in the left iliacus muscle, having no connexion with the disease of the vertebral column. Both lungs were filled with miliary tubercles.

The scrofulous tubercle, which M. Nisbet found to exist in all the cases of the vertebral disease of Pott which have fallen under his own observation, he considers as the origin of the affection. It appears under various forms, and in different situations: 1, as single or several deposits, varying in size from that of a pea to that of a nut; of a white, yellow, or grey colour; in cavities, either isolated or communicating with one another, either opening anteriorly or into the vertebral canal: 2, more rarely infiltrated into the spongy tissue of the bones, the texture of which has undergone no other change than a diminution of consistence: 3, amorphous masses of tuberculous matter, of various size, frequently deposited beneath, and elevating the anterior and posterior common ligaments.

The dorsal is more frequently the seat of these tubercular deposits than either the cervical or lumbar regions. Most commonly the tubercles are deposited in the bodies of the vertebræ. It is rare to find them confined to one bone. Any portion of the atlas and axis may be the nucleus of tubercles, the consequent phenomena being very different from those observed in the other situations of the same disease. Tubercles sometimes originate within the intervertebral cartilages, which may be affected alone or simultaneously with the vertebræ. In every situation, their first effect is to hollow a cavity for their reception. The bony parietes of these cavities preserve their normal structure and consistence, their production being apparently the effect of simple absorption from pressure, without inflammation. When the tubercles are not in immediate contact with the bone, their cavities are lined with a thin, vascular false membrane; and this is generally accompanied by a smoothness of the adjoining portions of bone. Tubercles formed in the centre of the bodies of the vertebræ gradually destroy them, until a kind of shell is all which remains: being no longer able to sustain the weight to which it is subjected, this breaks, and the column inclines, allowing the opposite bones to come in contact. If the tubercular matter be deposited within the bone, in cavities separated by thin septæ, these for a time afford support, but they eventually give way; and the inclination occurs somewhat suddenly, and at the moment of the destruction of these partitions. When the tubercles are first formed on the anterior surfaces of the bodies of the vertebræ, the destruction takes place slowly backwards; deformity occurs more gradually, and, as several vertebræ are generally implicated in the disease, instead of the angular prominence caused by the obliteration of a single bone, the spine assumes the form of a curve. It is rare to find tubercles deposited only behind the bodies of the vertebræ, but trifling protuberance results; the effect being chiefly confined to compression of the chord, and consequent paralysis. Lateral destruction of the vertebræ produces a corresponding deformity. The small extent of bony matter in the atlas and axis is rapidly destroyed by tubercles; the head inclines towards the part which is deficient, the ligaments are stretched or torn, and a fatal termination results from compression of the chord. The processus dentatus, when partially absorbed, may be separated from its connexions by a sudden motion of the head, and produce death by pressure on the chord. An ulceration of the articular cartilages of the first two vertebræ gives rise to elongation of their ligaments; the atlas slides downwards and forwards, its posterior arch compressing the chord; the movement of the dentata backwards contributes to the same result; paralysis gradually increases, and death supervenes by asphyxia. In an advanced stage, the intervertebral cartilages of these bones become softened and absorbed. It may happen that, by the loss of a body of a vertebra, two cartilages come in contact, and are then rubbed away. More rarely, tubercles are deposited within the substance of cartilages, which are then destroyed by ulceration. Paralysis does not always accompany this vertebral disease: when it does occur, it is limited to the organs inferior to the spinal lesion. Its forms are, simple loss of power, associated or not with loss of sensation; permanent contraction of the muscles, with or without sensibility, or accompanied by acute pains in the contracted limbs. The curvature of the spinal column does not necessarily produce paralysis. The spontaneous luxation of the atlas appears to be the only instance of displacement of a vertebra causing paralysis. In the majority of cases where paralysis has existed, its cause, on examination after death, has appeared to be, 1, an effusion of tubercular matter between the meninges of the chord; 2, tubercular matter within the chord, which has been found completely divided, (*Gazette Méd.* 1830;) 3, tubercles in the meninges, either infiltrated or deposited in small masses and sometimes coalescing, accompanied by thickening of the membrane, (*Ollivier, Maladies de la Moelle Epinière;*) 4, slight or extensive softening; or, 5, induration of the chord; 6, thickening and injection of the dura mater and arachnoid; 7, bony spiculæ penetrating the membranes.

These various conditions either compress, irritate, or give rise to inflammation of the chord. An exact relation exists between the different forms of paralysis and the organic lesion. With very considerable compression of the chord, with an interruption of its continuity, and with its softening, are associated complete loss of motion and sensation. Paralysis with contraction coincides with inflammation, kept up by some irritant cause; as bony concretions. Loss of muscular contractility alone, with relaxation, depends on a slightly irritating cause. The increase of this cause destroys sensibility; the employment of means which diminish irritation is attended with a return of power and sensation. The earlier existence of the disease in the bodies of the vertebræ, explains the prior affection of muscular contractility, the anterior nerves of the chord being first implicated. The causes of the paralysis explain the utility or inutility of remedies.

The first effect of tubercles on the bone is simple absorption; the texture of the bone around remaining quite normal. At the surface of the loss of substance, the bone may be smooth or rough; of natural colour or slightly injected. The tubercles, in coalescing, isolate various laminæ of bony tissue; which are found dry and mingled with tubercular matter. A single sequestrum of various size is sometimes all which remains of an entire vertebra. Similar destruction is caused by tubercular infiltration. The presence of tubercles sometimes excites a process of reparation; the effect of which is, the formation of bony spiculæ, extending from one vertebra to another; by which these bones may be fixed and a limit put to their destruction. The anterior common ligament is the origin of these new bony formations. Absolute and long continued repose may favour a union of vertebræ partially destroyed, by means of an intermediate cartilaginous deposit, which prevents the motion of the column, and opposes the progress of curvature. But much more commonly the bones are extensively destroyed, in consequence of the constant rubbing of their exposed surface.

The various changes met with in the vertebræ, comprise loss of substance; injection; necrosis; an ivory hardness of bone, and the production of new osseous matter. Swelling, softening, and caries, so commonly spoken of, have never been observed; and it hence appears probable that they have been admitted to exist on insufficient grounds. The deposits of tubercular matter in front of the bodies of the vertebræ have been confounded with swelling and softening of their substance; and Pott, who at first declared himself in favour of the latter opinion, afterwards remarked that "the bodies of the vertebræ were always in a condition which consisted rather in corrosion than in augmentation of volume." In later times, this affection has been attributed to osteitis; but on this supposition, can we explain the occurrence of death with but a superficial destruction of the vertebræ, whilst caries of the whole body often terminates in cure. In Pott's disease, the patients generally die of some other affection. Admitting this supposed cause, we should expect to find the vertebræ softened and suppurating; but this condition, which is not uncommonly met with in the articulating extremities of long bones, is very rare in the spine, and then, apparently, superadded to the other disease. The sequestra in Pott's disease are smooth, white, and of ivory hardness; in inflammation of long bones, terminating by necrosis, they are uneven and angular, fragile and spongy. In the former case, the bone possesses its normal structure; in the latter, it has been softened and expanded by inflammation, previous to its loss of vitality. Caries furnishes an effusion of the colour of wine dregs; softened tubercular matter constitutes the effusion in Pott's disease. Hardness and sonoreity characterise the bone around the tubercular deposits; softness and dulness on percussion, the bone affected with caries. Pott's disease is complicated with various affections. Nine tenths of the cases observed had pulmonary tubercles, and died from this cause; the same deposits may be found in all parts of the system. These tubercles may give rise to abscesses quite unconnected with the vertebral disease. Tubercular deposits, followed by abscesses, and situated in front of the spine, may create suspicion of vertebral disease, when the vertebræ are entirely free from all lesion. A softened mass of tubercular matter has been mistaken for an abscess depending on caries and in process of cure.

Treatment. When there is much pain in the protuberance, at the base of the thorax, in the epigastrium or loins; local bleedings are useful. In all the cases in which pain (which is not a constant attendant on disease of the spine,) has been complained of, the chord or its membranes have been found variously inflamed; and it is by remedying this condition, that such means are useful. Cauterization is not long before it produces relief of pain: respiration and the movements of the trunk become easier; there is some return of power and sensation of the lower limbs, and the amelioration may proceed still further, until the patient can take considerable active exercise, even whilst the protuberance remains. When, after death from other causes, the body has been examined in this state, the vertebræ have been found tubercular, eroded, hard, and like ivory; the continuity of the column has been interrupted at the situation of the protuberance, and there has been no attempt at reunion; some slight inflammatory appearances of the meninges or chord have remained, the consequences of a condition, which the cauterization had relieved. The pains and paralysis had diminished, together with the inflammation. When the pain and paralysis have obstinately resisted cauterization, the spinal inflammation has been found dependent on an immoveable and active cause. The progress of the vertebral disease is then quite uninfluenced by emunctories; it is always proportional to the number of the tubercles and to the movements of the trunk.

The movements and weight of the body hasten the softening of the tubercles, wear away the bodies of the weakened and almost destroyed vertebræ, give rise to friction of contiguous bony surfaces, irritate the chord and cause paralysis, promote the formation of abscesses by exciting inflammation of the soft parts, tend to demolish the bony columns which may be formed, and if the disease be situated in the first two vertebræ, produce a sudden and fatal compression. Hence, as remedial means, the necessity of repose and the horizontal position.

Gazette Médicale de Paris, Nos. 34 and 34. Août. 1835.

Treatment of Scald Head, (Teigne, Fr. Porrigo.) By BARON ALIBERT.

THE hair is cut as close as possible, and the head is washed for some time with a solution of carbonate of soda, or infusion of walnut leaves. An ointment, containing one drachm of soda to an ounce of lard, or two drachms of soda if the hair is thick, is then rubbed in, and the head covered with a piece of blotting paper. Mild bitter infusions are given internally; and, if it is suspected that the parents have a syphilitic taint, antiscorbutic medicines with mild mercurials. If the soda is inactive, it may be replaced by potash. In some cases, an ointment made with the burned leaves of belladonna or stramonium, or the same mixed with water, removes the disease.

[Those affected with scald head in the dispensaries and hospitals of Paris have been put by government under the care of two brothers, named Mahon, who have cured above 50,000 cases in these public establishments. They begin by cutting the hair short, (to within two inches of the scalp,) and, after removing the scabs with emollient poultices, they wash the head with soap and water for several days, until it is very clean. They then apply a depilatory ointment, which removes the hair slowly and without pain, and sprinkle the head with a powder which forms the basis of the ointment, taking care to keep the scalp very clean. The composition of this ointment they keep secret. M. Rayer has endeavoured to supply its place with one consisting of an ounce of prepared chalk, two drachms of subcarbonate of potash, and one drachm of powdered carbon, mixed with lard; the quantity of which is to be increased or diminished in proportion as the scalp is more or less inflamed. M. Biett often prescribes the following lotion instead of the depilatory powder:

℞. Sodæ Sulphur. iij.; Saponis Castil. ℥ss.; Alcohol, ʒij.; Aquæ Calcis. ℔j.
Misce, fiat lotio.

M. Giscard, an army surgeon, employs successfully this ointment:

℞. Axungiæ, lb. ij.; Sulphuris, ℥ij.; Pulv. Carbonis, ℥viij. M. fiat ung.

After shaving the head, he directs a layer of this ointment to be applied over it, to be washed off two or three days afterwards with a solution of black soap. This application, repeated five or six times, has cured the most complicated cases.]

Journal de Médecine et de Chirurgie pratiques, Novembre, 1835.

On Balsam of Copaiba in Gonorrhœa. By M. RATIER.

M. RATIER adopts the plan of treating gonorrhœa, which is very general in this country, by means of copaiba in the early stages. A modification he advises may be very useful in some cases,—that of exhibiting the balsam as an emulsion in an enema, when it disagrees with the stomach. He finds that the action of copaiba is impaired by any quantity of fluids; he therefore gives it on sugar or in a teaspoonful of wine, and recommends the patient to drink as little as possible. He prescribes a mild and nutritious diet, and forbids stimulants.

Bulletin général de Thérapeutique, Septembre, 1835.

On the Use of the Datura Stramonium, in Sarcocele and Diseases of a similar character. By THOMAS T. EVERITT, M.D., of Poughkeepsie, N. Y.

SARCOCELE is generally regarded as a disease of which the progress and advancement are only to be interrupted, and its evils avoided, by castration. Like most diseases of the glandular system, which are characterized by increase in size, and other evidences of morbid action, without acute inflammation, it has engaged the attention of the surgeon only with a view to an operation, as a measure inseparably connected with the disease, and one that sooner or later, as circumstances dictated, must be resorted to. If attempts have been made heretofore, to retard its development, they have been unsuccessful, so far as can be ascertained; and in the treatment of it, such course in practice usually adopted as would tend to the comfort and convenience of the patient; palliating his distress, and affording momentary relief, but nevertheless, with an assurance which experience has invariably taught, that the knife was the only sure and certain remedy, and to its power the patient must ultimately resign himself.

The partial successful treatment of two cases of sarcocele leads the writer to hope that remedial agents may yet be found, to which enlarged and diseased glands will readily yield. And with the intention of eliciting the attention of the profession to the subject, he is induced to report the results of his efforts.

In two cases of the disease which have been subjected to the use of the stramonium, both have been materially benefited, and in one the morbid action and train of disease entirely arrested; the tumour lessened in size, and most of the attendant evils removed. In connexion with its use the suspensory bandage has been worn, and mild cathartics administered at intervals of eight or ten days. For the period of two months the patient made use of the ointment of stramonium of twice the usual strength, applying it plentifully to the scrotum with considerable friction. At the same time he was directed to take of the extr. stramonii a quarter grain every morning and evening. For a small part of the time pil. hydrarg. was administered, and at different times in the course of the treatment other medicines, as iodine, &c., but none continued for any length of time, and there can be no doubt of the improvement in the case being altogether the effect of stramonium. Having much faith, therefore, in its medical properties, I would recommend its use more generally in affections of the glandular system, believing it will be found useful and efficacious.

United States Med. and Surg. Journal, for October, 1835.

Ointment to allay the Irritation of Hemorrhoidal Tumours.

By E. GEDDINGS, M.D.

So much suffering is experienced from the incessant irritation of hemorrhoidal tumors, that every means capable of affording relief under such circumstances must prove acceptable to the profession. I have used an ointment similar to the following, with the most happy effects, and in a great number of cases:

℞ Pulv. Carb. Plumbi, ℥ ss. Sulph. Morph. gr. xv. Unguent. Stramon. ℥ j. Ol. Olivar. qs. M. ft unguent. part. applicand.

Powdered opium, to the amount of a drachm, may be substituted for the morphia, and if the dry white lead is not at hand, that which is ground in oil, for the use of painters, may be advantageously substituted. Sometimes a drachm of powdered galls may be added. *American Archives*, No. I. Oct. 1834.

On a new Mode of Treating Burns. By Professor VELPEAU.

M. VELPEAU recognizes four degrees of burns: in the first there is simply rubefaction; in the second, vesication; in the third, the rete-mucosum and first layer of the true skin are involved; and in the fourth, a part or the whole thickness of the skin is converted into an eschar. If left to themselves, the first either terminates in resolution from the second to the eighth day; or changes into true erysipelas, or vesicates; the second rarely recovers in less than ten or twenty days, as the epidermis becomes detached and suppuration established; the third is followed by ulceration of the dermis, and the cure is delayed for a month or more; the slough is not detached from the fourth in less than ten or twenty days, nor is the ulcer healed under from two to six weeks. The merits of numerous remedies for burns are examined in relation to these degrees.

1. *Cold Water.* This is useful only in the first degree, which it cures in three or four days.

2. *Methodical compression with a Roller.* This is still more useful in the first degree: in the second and third, the epidermis should be removed previously, the wound covered with linen in which numerous small holes have been cut, spread with cerate, and then covered with charpie. It then prevents erysipelas. In the same manner it is useful in the fourth degree.

3. *Cotton, or down of the Typha.* These are useless in the first or fourth: employed early in the second and third degrees, they absorb all moisture, become dry, and a cicatrix forms beneath them, sometimes in a week or fortnight; but very often they form a crust, which does not prevent inflammation or suppuration manifesting themselves. It is a remedy of little value, except in some few situations or cases.

4. *The Solution of the Alkaline Chloride.* This acts much like cold water; but it also improves the state of the ulcerations. M. Velpeau has tried the chlorides of soda and lime in more than fifty cases, but thinks their value has been greatly exaggerated, and that they are merely good detersives.

5. *Saturnine Lotions.* These act in much the same way: they are more sedative and less exciting than chlorides.

6. *Linseed Poultices.* These are too much neglected: they calm irritation, remove the elevated epidermis, and diminish suppuration in young and sanguine habits: where they are not beneficial after a few days, their use should not be persevered in.

7. *Leeches.* These applied around eschars prevent or diminish inflammation and erysipelas.

8. *Liniment of equal parts of Oil and Lime-water.* This in superficial burns, particularly of the face, is very useful; the parts being anointed four or five times daily with a feather. No dressing is required: in five or six days large burns of the first, and some of the second degrees, have been cured by it.

9. *Strapping with Diachylon Plaster.* M. Velpeau originated this plan, and has pursued it with great success since 1832. It fulfils the same indications as compression, besides hastening greatly cicatrization. The first degree is constantly arrested by surrounding the burn in such a manner that the straps will remain seven or eight days, and without hindering the patient from performing his usual duties. In the second and third degree, the epidermis must be first removed, and the wound cleaned, and the strapping renewed every third, fourth, fifth, or sixth day: the cure almost constantly takes place from the fourth to the sixth day, in the second; and from the tenth, fifteenth, or twentieth in the third degree. In the fourth degree it represses the surrounding inflammation; does not hinder the separation of the sloughs, and as they become detached it favours cicatrization. Each strap must be from three quarters to one inch in breadth, and long enough to make one turn and a half around the burned part; the first being placed an inch below, and the last an inch above it: they must overlap each other so that only one-third of each is exposed; they must be very evenly applied, so as to compress equally every part, and the ends must be crossed over the sound skin. If suppuration is profuse, they should be changed every two days, at first: in ordinary cases every three or four days is sufficient. In the fourth degree, before the eschars are detached, the straps should remain for five or six days; the discharge which escapes between them being absorbed by charpie, and the whole surmounted with some compresses and a roller: when changed, the wounds should be cleansed, and even washed with saturnine lotion. No portion of detached epidermis should be left. If the surface of the part burned is uneven, the inequalities must be filled with charpie, or compresses, placed between the strapping and the roller. This treatment is only applicable for the arms and legs, and must be suitably modified for the hands and feet. In very large burns it is not advisable, as the dressing would be inconvenient and difficult. Some skins also will not bear it. The composition of the plaster is important. The linen should be neither too fine nor too coarse; neither too thickly or too thinly covered. That diachylon is best which has less resin and fat and more lead. The effect of this treatment is astonishing. Burns of the limbs generally are cured in three or four dressings. The cicatrix in many respects is remarkable. It forms on all points of the surface, denuded to the second degree, at the same time; so that

on the first or second removal of the straps it looks large, smooth, and supple, but firm. In the third degree, the same thing is observed: the new skin forming in the centre of the suppurating wound as well as around its edges. [M. Velpeau considers this remarkable, "*une particularité*," but John Hunter has described it as the usual mode in which ulcerations heal where the *whole* thickness of the skin has not been destroyed.] If the ulcer is deeper, its edges soon subside, become white, and then prolonged by a kind of pale thin pellicle over the suppurating surface. The granulations become firm, and are soon replaced by an epidermic surface, even before the bottom of the wound is on a level with its edges, so that the cicatrix remains a long time depressed. As the cicatrix is not formed wholly from the circumference to the centre, and is soft, of equal thickness, and very extensible, it is free from bridles, and irregular and deformed lumps, which follow other modes of cure. As they are less exposed to break and to excoriate, the consecutive retractions are more often avoided.

The duration of the treatment is almost the same in large as in small wounds. When well done, it gives no pain nor irritation: no dressing is so pleasant; and immediate relief follows. As it is changed only every three or four days, it is extremely inexpensive.

The details of sixteen cases are given, illustrating the effects of this treatment, and proving the previous statements. Some of these also prove that cicatrization takes place as rapidly in an ulcer of some standing, as when the surface is first exposed. No other treatment but this is equally suitable in all stages. In order to discover on what the beneficial effects of this treatment depended, M. Velpeau made numerous comparative experiments: thus, to try if the compression was the agent, he tried on the same patient compression by bandages, covering the wound with different dressings, but the burns which were strapped healed more rapidly: he next tried strapping with other plasters, but the diachylon succeeded much more rapidly: finally he compared the effect of covering the burns with disks of diachylon and other plasters without making pressure, and they healed more rapidly under the use of diachylon, but less so than when pressure was used. The union of pressure and the diachylon plaster is therefore essential. It is needless to state that this is merely an application to burns of Baynton's mode of treating ulcers: M. Velpeau has however applied it to ulcerations of all kinds, and even to subcutaneous inflammations and indurations. He proposes to return to this part of his subject at another period.

Revue Médicale Française et Etrangère, Juin and Juillet, 1835.

[The above abstract of M. Velpeau's valuable memoir will be appropriately followed by a brief notice of another mode of treating the same lesion, recommended by an American physician, and which we extract from a recent American journal.]

On the Treatment of Burns with Yellow Wash, (Aqua Phagædenica.)

By F. B. E. HINTZE, M.D.

DR. HINTZE, having failed in treating with success by unctuous applications the chronic ulcers which succeed to burns, had recourse to the application of the yellow wash, powdered rhubarb and dry lint, from the known good effect of such applications in other ulcers. The general benefit obtained from this mode of treatment in such chronic cases induced him to employ it in recent burns. He details eight cases in which this plan was successfully followed; but as they present nothing remarkable beyond the result of the treatment, we shall content ourselves with extracting that portion of the paper which contains some general directions for the use of the method recommended.

"The wash," says Dr. Hintze, "which I employ in recent cases, is composed of one grain of corrosive sublimate to an ounce of lime-water. In chronic ulcers, I use it of the strength of one and a fourth grain to the ounce. When called to a case of recent burn, I remove all the vesicles with scissors. I then apply the yellow wash with a soft feather, or a camels' hair pencil, over the whole surface, and dust the part with finely powdered Turkey rhubarb. Over this

I apply soft patent lint, cut into small slips to accommodate them to the part. This is the only local treatment necessary; and, if there should be any indication for constitutional remedies, the means proper in such cases should be employed. Should additional vesicles make their appearance, they must be promptly removed, as the accumulation and detention of a quantity of fluid within them tends to retard the healing process. Where the lint adheres, it should not be disturbed, but any pieces which may become loose may be separated with forceps or scissors. The part should again be wet with the wash, dusted with the powder as before, and covered with fresh lint. The adherent lint should also be moistened with the wash. This process should be repeated at least once or twice a day. Should tension, with more or less thickening, affect the part, generally indicative of the incipient separation of a slough, this process should be promoted by emollient poultices. As soon as the slough has separated, the former remedies are to be renewed. All ablutions with soap and water, &c. are inadmissible. If the purulent secretion should be too profuse, it may be gently removed with dry lint or soft old linen."

American Archives of Med. and Surg. Science. No. 5, February, 1835.

Case of Viper's-bite. By Dr. Siebergundi, of Dorsten.

A woman, while working in a wood, of a sudden experienced an acute pain in the ring-finger of her right hand, as if stung by a bee: on examining the finger, she discovered two small wounds, from which a little blood trickled; and on looking to the ground, saw a grey snake coiled up at her feet. She felt alarmed and distressed; a cold shivering came over her, followed by urgent thirst, vomiting, and inclination to void the fæces. She was conveyed home; and these symptoms continuing, a ligature was applied round the arm, with a view to prevent the venom reaching the heart, and a little honey smeared over the wounds.

At Dr. S.'s first visit, he found the right upper extremity, as far as two hands' breadth above the elbow, swollen, as if ready to burst; the tumefaction was bounded superiorly by means of a red woollen garter, which had been fastened tightly round the arm; the hand and fingers were much swollen, more especially the dorsum; as were likewise the integuments of the wrist-joint, and the forearm. On the third phalanx of the ring-finger, nigh to the articulation, he observed, on both radial and ulnary sides of its volar aspect, a roundish penetrating wound, as if produced by a small obtuse instrument; the wounds were bloodless, and emitted neither serum or other fluid; they were not more sensible to the touch than the rest of the hand. The whole extremity was painful if touched, and of a pale hue; so that the intumescence bore some resemblance to œdema, although the tension present prevented its pitting on pressure. The general symptoms were as follows:—countenance pale, continued rigors, pulse unusually slow and weak; the vomiting had discontinued about an hour before. Resolvent poultices with vinegar to be applied over the arm, and pledgets of charpie smeared over with digestive salve to the wounds. Rad. Serpentar. internally.

The swelling having augmented towards evening, she was ordered, in addition to the above, oleaginous frictions to the borders of the swelling, and a nitrated emulsion internally.

On the next day, the 27th, she was reported to have passed a sleepless night; the swelling had extended to the breast and shoulder, and along the inner side of the upper arm; numerous vesicles had made their appearance, filled with clear serum, but having a dark brown base. The fever was moderate, and no pain of the head was felt. Dec. Chinæ c. Sp. Minder. internally—Dec. Chinæ c. Sacch. Saturni externally, in form of poultice.

On the 28th, soon after having employed the last-named remedies, the pain abated in a great measure, the fever subsided, the surface becoming cool, and the pulse slow and languid. No appetite for food; bowels confined since the receipt of the injury. The finger wounds were found to be cicatrized. The swelling still persisted, and was greatest on the right side of the back and right breast, which had the same volume as in the most active period of lactation: in the subclavicular and deltoid regions several dark blue spots were observable, the result of sugillation.

Along the whole inner and some parts of the outer surface of the upper arm, the epidermis was detached as in sphacelus, the subjacent parts appearing throughout of a dark-blue tint; the remainder of the swollen parts were pale, and painful on being touched, except at the boundaries with the sound skin.

On the 30th, the general symptoms had vanished; the tumefaction had progressively diminished, and the excoriated portions exhibited healthy granulations. A slight œdema of the legs had supervened. From this period is to be dated her convalescence. For some time after her recovery, she complained of a sense of numbness in the right hand, most marked in cold weather; the hand continued paler than natural.

The history of the case now related confirms what has been advanced by MM. Lery and Gräve, in the Allg. Nationalzeit. f. Deutsch, No. 281, viz. that the bite of a serpent, when it involves a part of the body of narrow circumference, as a finger or toe, gives rise to more serious consequences than when an extremity of the body is concerned; for, in the latter instance, the empoisoned fang, grazing over a broad surface, merely frets the skin: whereas, in the former case, the tooth is permitted to penetrate more deeply into the substance, and convey the venom into direct contact with the lacerated tissues.

The general affection, as the feeling of uneasiness and distress, pallor, and chilliness of the surface, vomiting, looseness, and feeling of universal debility, and the local intumescence, together with the bloody extravasation and excoriations around it, are to be ascribed to the bio-chemical agency of the energetic septic animal poison on the circulating mass.—*Heidelberger Klinische Annalen*, Bd. x. H. 3, 1835.

Hernia of the Appendix Cæci Vermiformis. By Dr. TARAMELLI.

ON April 19th, 1835, a man, 68 years of age, was admitted into the hospital of Milan, with the symptoms of strangulated inguinal hernia of the right side. He had been ruptured for many years, but the present symptoms had existed about two days. The tumour was the size of a hen's egg, hard and painful; abdomen tense; obstinate constipation; small, contracted, and febrile pulse; no vomiting. Reduction was attempted by the taxis, bleeding, and the warm bath; but in vain, and the operation was decided on. On exposing the contents of the sac, they were found to consist of the appendix cæci vermiformis alone, increased to four times its natural volume. After Dr. Taramelli had divided the neck of the sac and the ring, he gently drew outwards the intestine, in order to satisfy himself more fully of its consisting of the appendix only: the cæcum immediately presented itself, and an indentation exactly at the junction of the cæcum with the appendix, which marked the seat of the strangulation, and showed that the cæcum itself was not involved. The intestines were then returned into the abdomen. An oily aperient procured several stools, and for two days there were no unpleasant symptoms; but a violent fever, accompanied with acute pains, then came on, and an inflammatory swelling of the whole of the side corresponding to the hernia, which, notwithstanding eight bleedings from the arm and forty leeches, terminated in profuse suppuration: this gradually diminished, and ceased about the end of May.

[Surgical writers have recorded cases in which the appendix cæci vermiformis, together with the cæcum, had been contained in a hernial sac; but they make no mention of the appendix alone having been found strangulated.]

Annali universali di Medicina, vol. 75, *Fasc. di Sett.* 1835, p. 430.

On the Treatment to be adopted after the Reduction of Dislocations. By J. F. MALGAIGNE, Professeur agrégé à la Faculté de Médecine.

TREATISES on distortions are deficient in directions as to the treatment to be adopted after these accidents have been reduced, and, to fill up this hiatus, M. Malgaigne has written a paper on the subject, which was read before the Academy of Medicine. The practical deductions which he has laid down are, that forty days are at least necessary to consolidate the torn articular capsules and ligaments, and in many cases a still longer period: in dislocations of the lower limbs especially, the patients should not walk for sixty days. Simple repose at the commencement is not sufficient, even in those dislocations which appear to remain *in situ*, by themselves. Thus, when the femur has ruptured its capsule upwards and outwards, the position must differ from a rupture downwards and inwards. In the first case the thigh should be extended, and the foot turned outwards; in the second, the foot should be turned inwards. If the bone is dislocated on the pubis, the thigh should be strongly flexed. The rules generally laid down by surgeons are in reference to the prevention of an anchylosis; but there is another object to be fulfilled by position, which is to adjust it so that the ruptured edges of the ligaments should be in contact. In luxations of ginglymoid joints, the most favorable position is demiflexion; for in this attitude the points of insertion of the torn lateral ligaments are the least separated from each other. When an old dislocation is reduced, five or six months are necessary to the cure. In unreduced dislocations of more than two months' standing, where the new capsule is probably becoming organized, and particularly when a change of the articular surfaces is feared, the limb should be held in position by a suitable apparatus until the swelling has disappeared; after which, slight motion in fit directions may be permitted, and the joint strengthened by douche baths, or external cauterization.

Journal Hebdomadaire de Médecine, No. 46, 14 *Novembre*, 1835.

New Mode of Treating Luxations of the Sternal End of the Clavicle.

By M. Velpeau.

No luxation is more easily reduced, or with more difficulty retained in its place. The difficulty is owing to the endeavour of the surgeon to oppose the power which tends to carry the clavicle forwards, instead of relaxing the muscles whose action oppose his wishes. Anatomy and experience show that in these cases the anterior sterno-clavicular and inter-clavicular ligaments are broken, and that dislocation necessarily follows, as the articular surfaces are so constructed that they do not offer any resistance to the muscles, which immediately displace the end of the bone: the pectoralis major and internal portion of the deltoid drawing it forward, the trapezius and sterno-cleido-mastoideus drawing it upwards; whilst both sets are assisted by the large muscles of the trunk attached to the scapulæ. The deltoid, pectoralis major, sterno-cleido-mastoideus, and trapezius are relaxed, and the rest neutralized, by carrying the elbow inwards and forwards to the lower part of the sternum, so that the hand may rest upon the opposite shoulder: when this is done, the bone returns to its place. It can be retained there by the following apparatus: A towel, folded thrice, is first placed round the thorax, and retained by braces attached to its upper border. The arm is then placed in the necessary position, and held by an assistant. The surgeon fixes the end of a bandage (eight yards in length) under the armpit of the sound side; brings it behind over the luxated clavicle; then downwards over the part of the arm; passes it behind and beneath the elbôw; then again under the sound armpit, behind the chest, above and before the injured clavicle, so as to make three or four turns like the first. Next he passes the bandage, which has just embraced the elbow, over the fore-arm, then on the sound clavicle, between the hand and the neck, instead of passing it under the armpit as before; after which he passes it downwards behind the thorax, towards the elbow, bringing it again on the fore-arm and clavicle, and making thus three or four diagonal turns. After this the bandage is not again passed under the elbow, but it is passed two or three times from below upwards round the chest and the bent arm; the remaining part is expended by making a few turns like the first, fixed by two or three circular ones. The whole is fixed by pins, and secured by a napkin covering all. This bandage may remain a month or more without any displacement. A more simple contrivance is a belt, or band, passing round the body, and having in front a deep pouch for the elbow. When the belt is fixed, and the elbow placed in the pouch, the belt must be drawn forcibly upwards towards the clavicles, and fixed there by braces over the shoulders, which are attached to the upper border of the pouch, as well as to the edges of the body-belt. *Journal Hebdomadaire de Médecine, Mai* 30, 1835.

On the Seat and Diagnosis of Dislocations of the Shoulder Joints.
By B. M. MALGAIGNE.

IT is commonly admitted that the head of the humerus may be displaced *downwards*, beneath the glenoid cavity, so as to rest on the neck of the scapula; *forwards and inwards;* and *backwards* into the fossa sub-spinata; besides which, there may be incomplete and consecutive luxations, the latter from muscular action. M. Malgaigne partially dissents from these commonly received opinions, on grounds both of anatomy and practice. The glenoid cavity is surrounded superiorly, anteriorly, and posteriorly by an osteo-fibrous arch (acromio-coracoid), which, as it descends lower behind than before, renders posterior dislocations more difficult than anterior, and, as it is deficient inferiorly, appears to favour luxations in this direction. The scapulo-humeral capsule, however, opposes this, for, although very loose, it is not sufficiently so for any dislocation, except a very partial one forwards, to take place without its being ruptured, at least in half its circumference; and even when the inferior three-fourths are torn, the upper fourth still remaining prevents the head of the humerus from being luxated downwards, as has been commonly imagined, and it is then almost necessarily placed under the coracoid process. The deductions which M. Malgaigne draws from anatomy are—

1. Cæteris paribus, the dislocation beneath the coracoid process is the most easy.
2. This luxation may take place without the capsule being torn, but then it is incomplete.
3. In every complete luxation of any kind the capsule is ruptured.
4. It is impossible that the head of the humerus can be placed on the neck of the scapula, fossa sub-scapularis, or fossa sub-spinata, unless the capsule is torn in all or almost all its circumference, except in those cases where it is unnaturally elongated.
5. In every luxation the arm is found to be elongated, if measured when brought near to the trunk.

In M. Malgaigne's experiments on the dead body, he luxated the head of the humerus beneath the coracoid process, so that the head was freed from the capsule, and directed forwards and inwards; the greater tubercle resting in the inferior part of the glenoid cavity, and the neck applied to the anterior border of the glenoid cavity. This dislocation presented all the symptoms of the luxation downwards of authors, besides some other symptoms not previously described, such as—1. Elongation of the anterior wall of the axilla, measured from the clavicle to the free border of the axilla. 2. Projection of the luxated head forwards, beneath the pectoralis major. 3. Rotation of the humerus outwards, in some cases extreme, in others hardly or not perceptible. From these data three inferences are drawn: 1. Symptoms, such as abduction of the arm, which have been attributed to muscular action, depend on the resistance of the capsule, as they are found in the dead body. 2. The supposed dislocation downwards is only a sub-coracoid dislocation. 3. Important signs of these dislocations had been overlooked. M. Malgaigne has confirmed these conclusions, by proving that the same symptoms are found in dislocations during life, and by showing, from examinations on the dead body, that these symptoms are produced by the sub-coracoid dislocation. Many cases are collected; two of these are striking. The first was in a woman, and Dupuytren (whose diagnosis was proverbially sure,) had pronounced it to be fracture of the neck of the humerus: the application of M. Malgaigne's principles of diagnosis made him alter his opinion, and the dislocation was reduced. The second case supports M. M.'s opinion, that no consecutive dislocations are produced by muscular action. On examining the arm of a Russian soldier which was dislocated at six years of age, and unreduced, the pressure of the edge of the glenoid cavity on the neck of the humerus was found to have been so great as to have made a large and deep depression, dividing the head from the shaft in the same way as in the femur, (nova acta physica-medica.) M. Malgaigne has met with only one decided case in which the dislocation was downwards. This is mentioned by Dessault. The capsule was entirely separated, for the head of the humerus was so moveable that it could be carried with equal ease against the external border of the pectoralis major, against the anterior edge of the latissimus dorsi, and against the skin of the axilla, which are very different from the common symptoms of luxation. The situation of the head of the bone varies a little even in the sub-coracoid dislocation, but without altering its general character. Generally it is found immediately beneath the coracoid process, from which it is only separated by some fibres of the sub-scapularis: sometimes, however, it is 2, 3, 4, or more lines beneath it; at other times it is carried a little more inwardly. Dislocation inwards of another is called by M. Malgaigne luxation sub-scapularis, and his opinions are new. The arm in this dislocation is longer than the other, but the contrary is the usual opinion. The head of the humerus cannot be felt in the axilla; it projects beneath the clavicle more internally than the coracoid process; the projection is irregular, and formed by the tubercles of the humerus, as is proved by the touch and the direction of the condyles. The arm, instead of being separated from the body, to which it cannot be approximated, as in the sub-coracoid dislocation, is forcibly applied to the trunk, from which it cannot be separated unless by considerable force and pain. From many examinations after death it appears that the head is placed in such cases in the fossa sub-scapularis. M. Malgaigne thinks that partial luxation of the humerus may take place, and that in such cases the head of the bone is always beneath the coracoid process, but not wholly driven out of the glenoid cavity. He therefore does not agree with Sir Astley Cooper, who considers that the head of the bone, in partial dislocation, is situated externally to the coracoid process; and, in criticising Sir Astley's cases, shows that in the cadaveric post-mortem observations, the head of the bone is stated to be beneath the coracoid process. This may take place without rupture of the capsule, but it is generally torn. In three cases the arm could be approximated to the trunk, but this does not seem to be constant. The arm itself is elongated. This is a more common dislocation than is supposed. It is a singular fact that the polished spherical head of the humerus resting on the polished edge of the glenoid cavity is not moved by the muscles, and may remain there until a deep groove is formed. Sir A. Cooper and Dupuytren agree that it is difficult to reduce and to maintain in its position afterwards. M. Malgaigne has remarked that the pain in partial dislocations is greater than in others, which he attributes to the capsule being more stretched because it is less torn. It is generally caused by force acting directly on the shoulder.

[This memoir elicited a discussion in the Academy of Medicine, and subsequently a letter from M. Malgaigne. The important point which M. Malgaigne wishes to establish is, that *in every luxation of the humerus the arm is elongated.* M. Velpeau objects to this; but it appears that sufficient care was not taken to measure the arm accurately in the cases which he adduces as exceptions. The arm in all cases should be approximated, as much as possible, to the trunk, and the distance measured between the inferior angle of the acromion and the external condyle. M. Lisfranc, although disposed to agree with the author, makes the sensible remark, that the words "always and never" should be erased from pathology. The practical value of the fact that the arm is invariably elongated in dislocation, is seen in its application to the diagnosis between this accident and fracture of the neck of the humerus, which is often difficult. In only two cases (according to M. Lisfranc) can the arm be elongated when three is fracture of the neck, viz. with paralysis of the limb, or with oblique fracture, when, by extension, the upper end of the lower fragment has been brought to rest upon the lower end of the upper portion. These two accidents, however, are rare, and easily recognised, and in all others this sign is of great diagnostic value.]

Gazette Médicale, Oct. 1835. Nos. 40, 41.

Observations on the Employment of the Suction Pump in Incarcerated Hernia.

By Dr. L. KOEHLER, of Warsaw.

IN 1828 Dr. K. succeeded in reducing a scrotal hernia, after it had remained obstinately incarcerated for three days, by the merely incidental application of a cupping glass. Having, then, never heard of the employment of the suction-pump in similar cases, he scarcely ventured to attribute his success to the real cause: yet the occurrence impressed itself upon his mind, and induced him, on reading Dr. Busch's Observations on the use of the Suction-pump, in Hufeland's Journal, for 1832, to give this new method of reducing incarcerated herniæ a fair trial. The first experiment was made on a man, aged sixty, who had been affected with a scrotal hernia of the left side for nine years, and which suddenly became incarcerated, in consequence of an indigestion. The patient became affected with violent colic, and all attempts on the part of a surgeon to effect reposition were fruitless. When Dr. K. first saw him, he had been in this state for three days; and the scrotal sac had attained the size of an ostrich's egg. The features were sunken, and indicated great anxiety; the body suffused with a cold sweat; abdomen inflated, hard; extremities cold; pulse scarcely perceptible, and thready; bowels not relieved for three days; fæcal vomiting and singultus ensued. In vain the most active treatment had been already employed, and an immediate operation appeared to be the only possible means of saving the patient, although, under the circumstances, even that resource seemed next to hopeless. The swollen and inflamed parts being still capable of bearing some degree of pressure, Dr. K. made an ultimate attempt at taxis; but that failing, the suction-pump was then had recourse to. On its first application over the abdominal ring, borborygmi were heard within the incarcerated sac, and, to the surprise and satisfaction of every one, reposition was effected immediately afterwards. The vomiting instantly ceased, a few hours later the bowels acted freely, and the patient entirely recovered in a few days.

Six cases of incarcerated inguinal and one of incarcerated crural hernia (in a female) are further detailed, in all of which the strangulation, after resisting every other kind of treatment, short of actual operation, yielded almost immediately to the relaxing powers of the suction-pump.

In the instance of a Jew pedlar, however, greater perseverance in the new method was found requisite. This individual (whose age was sixty-two) had been affected, during a period of twelve years, with a scrotal hernia, which, owing to a mismanagement of the truss, became ultimately strangulated. When the patient was first examined at the Jewish hospital, the hernial sac was of the size of a child's head, and somewhat tense, though not remarkably tender. The patient had vomited twice, but his bowels had (in spite of several clysmata, which were administered to him before entering the hospital) remained constipated for four days. No success having attended a first application of the suction-pump, venesection and an anodyne ointment were had recourse to, together with the exhibition of calomel in liberal doses. No improvement was, however, effected by these means; the vomiting returned, the fever continued unabated, whilst the affected part become more and more painful. Under these circumstances, Dr. K. resolved on renewing the application of the suction-pump. This second attempt again proved a failure; but on the trial being repeated, slight peristaltic motion within the hernial sac became perceptible, and immediately after the fourth application of the instrument, complete reposition of the hernia was effected without difficulty. Copious alvine evacuations ensued shortly afterwards, and in a few days the individual had recovered his former health.

In an obstinate case of strangulated inguinal hernia, a colleague of Dr. K. once succeeded in accomplishing his purpose of reduction, by simply applying an inverted tumbler, by way of a cupping-glass, at the point of strangulation.

Professor Janikowski communicated to Dr. Koehler a case of strangulated umbilical hernia, wherein he had employed the suction-pump with perfect success. The patient, a corpulent unmarried woman, aged fifty, had been afflicted with umbilical hernia, which never admitted of perfect reposition for the space of two years, when true symptoms of strangulation supervened. After three days of obstinate costiveness, stercoraceous vomiting ensued. The hernial protuberance was of the size of a large orange, hard and very sensitive. All the usual remedies having proved abortive, the suction-pump was at length resorted to. Its application was productive of great pain, and the integuments became, to a certain extent, excoriated, as they drew up and filled the glass bell. The instrument, having been allowed to operate for some little time, was at length withdrawn, when *complete* reduction of the hernia was effected with perfect ease. Abundant stools quickly led to recovery; and the application of a suitable truss removed every inconvenience under which the woman had formerly laboured.

A further enumeration of cases in which taxis was accomplished, and the hernia superseded by means of the suction-pump, appears to Dr. K. to be superfluous. In twenty-three cases, most of which were of a hopeless kind, the new method never once failed him; and it were greatly to be wished, he concludes, that so simple a remedy might be called into more general use.

Hecker's Annalen. Erster Band. Viertes Heft, 182

MIDWIFERY.

On the Reposition of the Umbilical Cord. By Dr. Michaelis, of Kiel.

[We have not read an obstetrical essay in a periodical work for some time which has given us more pleasure. Dr. M. has examined the subject with great attention, and has given an admirable exposition of the circumstances under which prolapsus of the funis takes place, and of the means adopted by nature to prevent it. Hitherto it had been always considered as useless to attempt returning a prolapsed umbilical cord; the coil slips down as fast as it is pushed up; nor have the various plans which have been recommended (and which are too well known to the scientific obstetrician to require enumerating,) proved at all more successful. We can only find space for a brief outline of this memoir, which we shall give partly in the words of the author and partly in our own.]

The most effectual means by which we can hope to keep back the umbilical cord after it has been replaced, is a permanent contraction of the uterus round the presenting part of the child, which either comes on of itself in every labour, or where this is not the case,—viz. where there is a large quantity of liquor amnii, or not much uterine activity,—may be most certainly induced by mechanical irritation. The portio vaginalis is that part of the uterus which first contracts round, or rather applies itself to, the child's head: the effect of this action is to push away the cord which lies near the head shortly before the os uteri begins to dilate; but, where this contraction does not take place, because the head is still high when the membranes rupture, or because it comes down irregularly, the cord is very apt to prolapse when the liquor amnii comes away. As, however, the umbilical cord is seldom noticed until the rupture of the membranes, or until the os uteri is nearly fully dilated, this state of the portio vaginalis, as far as regards its reposition, is of less consequence. On the other hand, the contraction of the uterus, which comes on with the rupture of the membranes, and sometimes where they protrude very much even before, is of great importance. This contraction takes place in the inferior segment of the uterus: it surrounds the head, and, when fully developed, extends over the whole head of the child. Thus, for instance, if we attempt to operate at an early stage, it feels more like a hard ring round the head, of about a finger's breadth, and it may be felt to extend itself higher up in proportion as the stimulus of the hand excites the activity of the uterus. There are two circumstances in this contraction which especially deserve notice: 1st. that it always rises from below upwards, and, when once established, continues during the intervals of the pains. As soon as the os uteri is nearly fully dilated, it begins to form, and, according to Dr. M.'s observations, continues until the head has quitted the uterus. 2d. That its upper edge is well defined, and does not gradually pass into the other portions of the uterus. The action of this stricture (if we may give it such a name,) as respects the cord, is very distinct: where the cord has laid rather low down, it pushes it back, and keeps it in this situation, so long as the presenting part of the child is round, viz. the head or nates. This stricture is alone the means to which the accoucheur must look for assistance, if he wishes effectually to replace the cord; a means which he must use if he finds it present, and which, if it be not present, he can easily induce by slight irritation of the uterus. It is a great fault, in former. observations on this subject, that the pelvis has always been looked upon as the means for keeping up the cord when returned, and little or no attention paid to the uterus. It is the uterus alone which prevents the cord from prolapsing, and to which the operator must look for assistance if he intends to succeed: hence the proposition to push up a sponge so as to fill the empty space between the head and pelvis is futile, and has long been forgotten.

From what has been stated, reposition of the cord consists in carrying it above that circular portion of the uterus which is contracted over the presenting part. The reposition of the cord may be effected by the hand, or by means of an elastic catheter and ligature. In replacing the cord by means of the hand alone, Dr. Michaelis remarks that we shall effect this more readily by merely insinuating the hand between the head and the uterus, and gradually passing it further round the head, pushing the cord before it: in this manner we do not require to rupture the membranes where we have felt the cord before the liquor amnii has escaped; a point of considerable importance.

The reposition by means of the catheter is effected by passing a silk ligature, doubled, along a stout thick elastic catheter, from twelve to sixteen inches in length, so that the loop comes out at the upper extremity; the catheter is introduced into the vagina, and the ligature is passed through the coil of umbilical cord, and again brought down to the os externum. A stilet with a wooden handle is introduced, and its point passed out at its upper orifice, and the loop of the ligature hung upon it: it is then drawn back into the catheter, and pushed up to the end. The operator has now only to pull down the ends of the ligature, passing the catheter up to the cord, which now becomes securely fixed to its extremity. When the reposition has been effected, he has merely to withdraw the stilet; the cord is instantly disengaged. To prevent any injury, &c. the ligature should be brought away first, and then the catheter.

Dr. Michaelis has recorded eleven cases of prolapsus of the cord, where it has been returned by the above means, in nine of which the child was born alive. In three cases the arm presented also, which was replaced, and the head brought down: in two of these the child was born alive.

[These facts are very interesting, and deserve careful attention. The reposition of the prolapsed cord has long been a much wished-for object, and the possession of the means by which turning in many of these cases is rendered unnecessary will, of course, be a most valuable addition to obstetric knowledge.]

Neue Zeitschrift für Geburtskunde, III. *Band.* I *Heft.* 1835.

Tables of the Midwifery Cases in the Maison d'Accouchement de Paris, from 15 *June*, 1830, *to* 15 *June*, 1835.

Table of Presentations.

Years.	Vertex	Face.	Nates.	Feet	Knees.	Right Shoulder.	Left Shoulder.	Total.
6 months 1830	881	1	33	13	..	2	..	930
1831	2,714	6	26	11	..	4	5	2,766
1832	2,198	8	67	19	1	4	6	2,303
1833	2,171	11	49	17	1	6	6	2,261
1834	2,289	9	56	20	1	11	2	2,388
6 months 1835	1,071	3	26	14	..	..	3	1,117
General Total	11,324	38	257	94	3	27	22	11,765

Results.

Years.	Living.		Dead.			Kind of Labours.			
	Single.	Twins.	During Labour.	Putrid	Total.	Natural.	Artificial.	Laborious.	Total
6 months 1830	848	30	24	28	930	922	2	6	93
1831	2,623	44	45	54	2,766	2,744	9	13	2,7
1832	2,128	50	52	73	2,303	2,266	14	23	2,30
1833	2,078	49	57	77	2,261	2,219	13	29	2,2
1834	2,211	56	53	68	2,388	2,352	8	28	2,3
6 months 1835	1,031	34	19	33	1,117	1,108	4	5	1,11
Total	10,919	263	250	333	11,765	11,611	50	104	11,7

La Lancette Française, No. 115, 26 *Sept.* 1835.

ANIMAL CHEMISTRY.

Researches on the Blood. By L. Gmelin, F. Tiedemann, and E. Mitscherlich.

[These important researches embrace three subjects of enquiry, viz. 1. the carbonic acid of the blood; 2. the state of the blood after extirpation of the kidneys: and 3. whether urea or sugar of milk can be detected in healthy blood. In presenting them to our readers, we shall content ourselves with giving the substance of the memoir, without adhering to the exact words of the distinguished authors; and we shall introduce, as we go along, such remarks as suggest themselves to us.]

§ 1. *The Carbonic Acid of the Blood.*

Though the question whether carbonic acid exists in the blood, either free or combined with a base, is one of considerable moment, especially as regards the theory of respiration, the experiments undertaken by different chemists, with a view of determining it, have afforded very contradictory results. In the present experiments one source of fallacy has been carefully guarded against, namely, the access of atmospheric air to the blood submitted to examination. A small metallic tube, with a stopcock, was inserted into the femoral artery, and a similar one into the femoral vein, of a living dog; to each of the tubes an elastic gum catheter was adapted, along which the blood was permitted to flow, till the contained air was wholly expelled; the end of the catheter was then brought under a glass jar, three and a half inches high, and one inch wide, previously filled with and inverted over mercury, and the blood was allowed to rise till it filled the upper half of the vessel, which was then conveyed under the receiver of an air pump.

At first, no air bubbles were emitted under the action of the pump from either kind of blood, nor until the exhaustion reached twenty-seven or twenty-eight inches of the barometer; at which time a quantity of aeriform fluid was evolved from both, so as to depress the mercury in the jar about an inch. On re-admitting the air, however, the evolved fluid suddenly disappeared, long before the atmospheric pressure was wholly restored, from whence the experimenters inferred, that it was merely watery vapour, generated in a Torricellian vacuum, and not a permanent gas. From this experiment, accordingly, they conclude that neither arterial nor venous blood contains free carbonic acid.

The experiment just related undoubtedly proves that no carbonic acid or other gas is emitted from blood on removing atmospheric pressure, a result which agrees with that previously obtained by Dr. Darwin and by Dr. John Davy, and is further confirmed by experiments made almost simultaneously with the above, but independently, by Stromeyer, and by Dr. J. Müller, of Berlin. But it is contended by Dr. Stevens, that the non-evolution of carbonic acid from the blood under the air pump does not amount to a proof of its non-existence in that fluid, since serum of blood purposely impregnated with carbonic acid cannot be made to yield it again by the mere removal of the atmospheric pressure: moreover, to show positively that free carbonic acid exists in the blood, he adduces an experiment, in which he obtained carbonic acid from venous blood on agitating it with hydrogen, and exposing it for an hour to the contact of that gas.* Without pretending here to discuss the question, we may be permitted to remark, first, that carbonic acid purposely added to blood may be fixed and retained in it by the soda which the blood contains, and secondly, that Dr. J. Müller could obtain no appreciable quantity of carbonic acid from blood on agitating it *for a long time* with hydrogen.† It seems therefore desirable that Dr. Stevens should repeat his experiment, with a view of determining the *amount* of carbonic acid extracted in this way from a given quantity of blood.

The authors mention as a fact worthy of notice, that coagulation took place as usual, though the access of air was prevented, and that the characteristic difference of colour of the two kinds of blood was obvious during the whole experiment, showing that the brighter colour of arterial blood does not depend on a difference in its mode of coagulation, for it was evident before coagulation took place; nor on the frothy state in which it is usually obtained, (as alleged by Dr. J. Davy,) for in their experiment the frothing was prevented.

To ascertain whether, as is stated by Dr. Davy, carbonic acid is absorbed in greater quantity by the serum of blood than by water, the authors added carbonic acid in successive quantities to the arterial blood employed in the previous experiment without removing the clot. The absorption was gradual, as no agitation was used, the temperature between 5° and 10° Cent. (40° and 50° Fahr.) In five days, one hundred measures of blood had absorbed one hundred and twenty of gas, and in ten weeks more, sixteen additional measures of gas were absorbed, in all, one hundred and thirty-six. In a subsequent experiment, one hundred measures of arterial blood absorbed in three weeks one hundred and forty of carbonic acid, and one hundred of venous blood absorbed in the same time one hundred and eleven of gas.

The next experiment was to determine whether the blood contains carbonic acid in combination with an alkali. Blood from the vein of a dog was collected over mercury as before, but in two separate quantities, both of which were submitted to the action of the air pump, after one of them had been mixed with concentrated vinegar. The same was done with arterial blood. In the jars containing pure blood, the mercury, which was an inch higher than in the former experiment, began to fall when the exhaustion reached twenty-six and a half inches, and, as before, the resulting vacuum disappeared the instant a little air was re-admitted. The arterial blood which had been mixed with vinegar, gave out, at an exhaustion of twenty inches, many small bubbles of air, which at twenty-five inches occupied a space equal to one-third of the volume of the blood employed. On re-admitting the air, a small quantity of gas remained for a few moments, and then almost wholly disappeared. The same took place in the acidulated venous blood, but the gas appeared at twenty-three and a half inches of exhaustion, and at twenty-five inches occupied a space equal to the whole volume of the blood; on re-admission of the air, larger gas bubbles remained than in the arterial blood, though the quantity of venous blood employed was less.

From this experiment it was inferred that carbonic acid, combined with a base, is contained both in arterial and venous blood, but in larger proportion in the latter. For greater certainty, however, another experiment was made, by heating a portion of each kind of blood in a flask with vinegar, and passing the gas evolved through barytic water; from the respective quantities of carbonate of baryta obtained, it appeared that ten thousand parts of venous blood contains at least 12.3, and ten thousand of arterial 8.3 of combined carbonic acid; so that, the proportion in venous blood is to that in arterial as three to two.

The authors next compare the result of their experiments with the leading views entertained as to the formation of carbonic acid emitted during respiration. They observe that the facts are obviously more favorable to the opinion that the carbonic acid is formed in the lungs, by direct combination of its constituents, than to the opposite theory of Lagrange, with which indeed they are scarcely at all reconcileable; but they regard both views as unsatisfactory, and suggest one of their own, which they think may form the foundation of a theory of respiration more consistent with known facts.

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* Phil. Trans. 1835, p. 2.

† Handbuch der Physiologie, p. 315.

They first remark that acetic or lactic acid exists in the blood, and in most animal secretions, either free or combined with an alkali; that it is excreted with the sweat and urine in such quantity as cannot be accounted for by supposing it to be introduced with the aliment, and that it must therefore be formed in the body. As, moreover, this acid is produced in most organic fluids, on exposing them to the air, and this process is greatly favoured by a warm temperature, they consider it highly probable that the acetic or lactic acid naturally existing in the body, is produced by the action of oxygen on the blood in the lungs, where the conditions necessary or favorable to the process are present. Proceeding on this view, the authors offer the following theory of the chemical process of respiration. The air in the lungs permeates the coats of the vessels, and comes into immediate contact with the blood. Part of the oxygen consumed unites directly with carbon and hydrogen, producing a portion of carbonic acid and watery vapour; another part combines with some of the organic constituents of the blood. From both causes new products are formed in that fluid, the chief of which is lactic or acetic acid. This acid decomposes a part of the carbonate of soda, and disengages its carbonic acid, which is expelled. The acetate of soda formed in the lungs is freed of its acetic acid by means of the various secretions, especially the urine and sweat; the alcali combines again with carbonic acid, formed by the further decomposition of the organic constituents of the blood, which takes place in its progress through the body, and arrives again at the lungs as carbonate of soda.

This theory is in strict accordance with the fact that venous blood contains more alkaline carbonate than arterial, and that it contains no carbonic acid; but it might perhaps be expected that a portion of the free carbonic acid disengaged should be retained by the arterial blood. In anticipation of this objection, the authors remark that only a part of the blood which passes through the lungs can be acted on by the air, and only this part can carry along with it free carbonic acid, and that when this is mixed with the unchanged blood, its free carbonic acid becomes fixed by uniting with the carbonate of soda, and forming a bicarbonate.

The authors by no means offer this theory as perfect, and they freely admit that it is still attended with many difficulties. We may remark that it seems to accord well with the facts respecting the colour of the blood recently discovered by Dr. Stevens. From his experiments, confirmed by those of Dr. Turner and others, it appears that the crassamentum of blood, whether arterial or venous, when wholly deprived of its serum by ablution with water, is always of a dark colour, and that in this condition it is not reddened by exposure to oxygen, but that it acquires a florid hue on restoring the serum, or immersing the clot in a saline solution, such as that of sea salt or bicarbonate of soda. The florid colour of arterial blood appears, therefore, to be due to the saline matter of the serum. Dr. Stevens ascribes the colour of venous blood to the supposed presence of carbonic acid, (which, however, is at least very doubtful,) which, like other acids, darkens it; and he conceives that the red colour acquired by the blood in its conversion from venous to arterial, is owing merely to the elimination of this gas, and consequent restoration of the influence of the salts of the serum; the oxygen he supposes to possess a peculiar power of extracting the carbonic acid and, further than this, to have no influence in producing the change of colour. Now, admitting that the red colour depends on saline matter, and, without attempting to account for the dark colour of venous blood, we may observe, that if the action of oxygen in respiration be really such as is supposed by Gmelin and Tiedemann, their theory will go some way to explain the effect of that gas on the colour of the blood; for it is supposed to give rise to acetate and bicarbonate of soda, which salts, if present, must heighten the colour.

2. *Examination of the Blood after Extirpation of the Kidneys.*

The well known experiment of Prevost and Dumas is of such importance in regard to the theory of secretion, that, notwithstanding the successful repetition of it by Vauquelin and Segalas, the authors deemed it expedient to repeat it once more. They accordingly removed the right kidney of a dog, by an incision in the lumbar region. Neither urine nor excrement was passed for the first twenty-four hours after the operation, but soon after this, both were freely discharged. The wound was completely healed in fourteen days, and the animal appeared, in all respects, as well as before the operation. Twenty-eight days after removal of the right kidney, the left was extirpated. It appeared very vascular, and was about a third larger than the right one, probably from increased activity. The animal survived the second operation only two days. During this time, it occasionally took a little milk and water, twice passed thin greenish yellow excrement, and vomited frequently, first a bilious, and subsequently a watery fluid, with dirty grey mucus. The animal was much dejected, and, shortly before death, was attacked with frequent and violent shiverings.

On opening the body, the peritoneum was found inflamed, and contained a purulent fluid. The vessels of the stomach and intestines were distended with blood, and the mucous membrane of the former appeared inflamed. Both stomach and intestines contained a mucous fluid tinged with bile. The liver was enlarged, very vascular, and very soft and friable, the gall-bladder distended with dark green bile. The right cavities of the heart and venæ cavæ contained dark coagulated blood. The lungs and spleen were natural. The ventricles of the brain contained more fluid than usual.

The following matters were examined chemically with a view to discover urea in them, viz.: 1. The matters vomited. 2. The blood collected from the great vessels amounting to about two ounces. 3. The bile. 4. The contents of the small intestines. 5. The discharged excrement. These substances being dried, were treated with boiling water, and the liquor filtered and precipitated with acetate of lead; the excess of lead being removed in the case of the first three by carbonate of ammonia, and in the last two by sulphuretted hydrogen; the filtered liquor was evaporated to dryness, and treated with alcohol. The residue, obtained by evaporating the alcoholic solution, was then dissolved in a small quantity of water, and into this solution, cooled by means of ice, concentrated nitric acid was slowly dropped, with a result which, in the different substances, was as follows.

From the blood a yellowish white crystalline precipitate, equal in volume to half the mixture: a portion of this precipitate, heated in a platina spoon, left a trace of carbonaceous matter, which disappeared without residue; another portion, gently heated with hydrate of potass, afforded no ammonia. The thick and largest portion was heated with water and carbonate of baryta, and the mixture treated with a large quantity of alcohol. The filtered alcoholic liquor which was not precipitated by sulphuric acid, gave, by spontaneous evaporation, long colourless needles of urea, amounting only to two or three milligramms, but in sufficient quantity to be tried by the usual tests.

The liquor obtained from the vomitings gave a precipitate with nitric acid, resembling in aspect nitrate of urea, but in too small quantity to allow of its nature being determined with certainty. The precipitate obtained from the bile had no resemblance to nitrate of urea. The liquor obtained from the contents of the intestine and the excrement gave no precipitate with nitric acid.

From this it follows that urea was certainly present in the blood, and probably so in the matters vomited; but that it was not detected in the bile, the contents of the intestine, nor the fæces. The small quantity of urea found in the blood, compared with that obtained by Prevost and Dumas, is explained partly by the small quantity of blood analyzed, and partly by the shortness of the time the animal lived after the operation.

3. *Unsuccessful attempt to discover Urea and Sugar of Milk in Healthy Blood.*

It having been first ascertained that 0.2 grammes of urea and 0.5 grammes of sugar of milk, each purposely mixed with fifty grammes of cow's blood, could with certainty be detected by the usual process, it appeared reasonable to expect that, by operating on large quantities of blood, these ingredients, if present, might be discovered, though existing in still smaller proportion. Accordingly, ten pounds of blood from a cow giving milk, were submitted to experiment, but neither urea nor sugar of milk could be discovered in it. From this, it follows that healthy cow's blood contains neither of these substances, or that they are present in it in so small proportion as to be concealed by the other ingredients, and rendered indistinguishable by the usual process.

Zeitschrift für Physiologie, B. v. Heft 1.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

Experiments on Peroxide of the Hydrate of Iron as a Counter-poison to Arsenic. First Series. By MM. MIGUEL and SOUBEIRAN, of Paris.

The French chemists have not been tardy in endeavouring to test the efficacy of this antidote to arsenic which was discovered by M. Bunzen. The following series of experiments were undertaken subsequently to those of M. Leseur, which were communicated to the Academy by Orfila, who considered that the German chemist had not exaggerated the importance of his antidote. The French experimenters found that if a large dose of arsenic was given to dogs and they were allowed to vomit, it produced no effect: it was necessary therefore to tie the œsophagus of those dogs on whom any experiments were to be made. As tying the œsophagus is a fatal operation, it was essential to ascertain the length of time that a dog would live after this alone was performed; and also the time which arsenic alone took to produce death when the œsophagus was tied after its introduction. A dog whose œsophagus was tied simply, died in seventy-eight hours: two other dogs, to whom nine and twelve grains of arsenic were given, and who were prevented from vomiting by tying the œsophagus, died in two hours and two hours and a half. In all the following experiments recently prepared peroxide of hydrated iron mixed with water was used, in the proportion of twelve parts to one of white arsenic.

Twelve grains of arsenious acid mixed with water was given to a little dog, and immediately afterwards the iron: the œsophagus was then tied; for some time he endeavoured to vomit, but two or three hours afterwards all symptoms had left: twenty-four hours after the operation the ligature was removed; fluids were given, but deglutition of solids was impossible, and the dog died on the sixth day. Two large dogs were similarly treated with a larger dose of arsenic (eighteen grains): the ligature was not removed. One lived seventy-eight, the other eighty-four hours.

The salutary effects of the hydrate of iron cannot be doubted in these three cases; for, from the previous experiment, the arsenic alone would have killed them in two or three hours, whereas they lived as long as they would have done had the ligature only been employed. Another series of experiments was performed to ascertain if the iron would arrest the effects of the poison after they had lasted some time. The poison was shown, by a previous experiment, to kill in two hours and a half: and this fact was confirmed by giving a dog eight grains of arsenic, after his œsophagus had been tied, and introducing the antidote two hours and a half afterwards: he died a quarter of an hour after this injection. To determine how long after the poison was taken the counter poison was useful, four experiments were made. Eighteen grains of arsenic were given to a middle-sized dog, the œsophagus was tied, and presently the efforts to vomit were very violent: an hour afterwards an opening into the œsophagus was made below the ligature, the iron was injected, and a second ligature applied. The animal lived ninety hours after the poison had been given. Two spaniels were treated in the same way, the antidote being injected one hour after the poison: eight grains of arsenic was given to one, who lived ninety hours; and twelve grains to the other, who lived thirty-eight hours. Eighteen grains were given to a large dog and the iron introduced *two* hours afterwards: he lived thirty hours.

In all four cases death was greatly delayed by the iron, and in the first experiment on a very strong dog the poison was neutralized, as he lived as long as if a ligature only had been applied. The conclusion must be admitted, that the iron acted as a counter-poison for some time after the arsenic had been swallowed. The unfavorable circumstances under which the antidote was given, strengthen this conclusion; the animals had undergone an operation which always produces on them great depression; the whole of the arsenic had been retained in the stomach for an hour or two, and nothing had been given to diminish its local or constitutional effects. In two experiments it was found that when arsenic was mixed with fatty matters, the iron was less efficacious as an antidote: probably from the arsenic being covered by the fat, and protected from the action of the iron.

The hydrated peroxide of iron used in these experiments was procured in the following way. Sulphate of iron of commerce was mixed with five or six times its weight of water in a platinum or porcelain capsule, and when it boiled, small quantities of nitric acid were added until the ruddy vapour ceased to ascend: this was to bring the oxide of iron to its maximum of oxygenation. The liquor was then diluted, and the iron precipitated by liquid ammonia. The precipitate was washed and mixed with a small quantity of water until it had the consistence of clear "bouillie." As it cannot be weighed in this state, thirty-six times as much sulphate of iron is required as the poison taken, for the sulphate contains one-third of its weight of peroxide. It should be kept as a hydrate, for the dried powder does not act as an antidote. The chemical change consists in a conversion of the arsenious acid into arsenite of iron. Three times the quantity of the hydrated peroxide of iron is sufficient to neutralize arsenious acid in solution, and the decomposition is instantaneous; but as the arsenic when used as a poison is almost always swallowed as a powder, a much larger proportion of the antidote is advisable, for the action goes on very slowly. Even then however it must neutralize all ill effects, if it is in contact with the arsenic, for as soon as the smallest quantity of the poison is dissolved, the oxide of iron acts upon it and precipitates it.

In conclusion it is recommended in all cases of poisoning by arsenic to give the patient large quantities of hydrate of the peroxide of iron; at the same time also to encourage vomiting, to get rid of undissolved arsenious acid from the stomach; and to repeat the hydrate as long as there are symptoms of any of the poison remaining.

Bulletin Général de Thérapeutique, Decembre, 1834.

Second Series. By Drs. G. BORELLI and C. DEMARIA, of Turin.

FURTHER experiments on this counter-poison to arsenic have been made in Italy, which are even more in favour of it than those performed by MM. Miguel and Soubeiran.

Experiment 1. Nine grains of arsenic were given to a dog, and immediately afterwards three ounces of the hydrated tritoxide of iron: the œsophagus was tied. Seven hours afterwards there were no symptoms of poisoning; it was found that the dog could swallow a little liquid; he could not vomit solids. The dog lived ten days; at that time he was killed, and it was found that the œsophagus had not been completely obliterated.

Experiment 2. A similar experiment was made on a dog with ten grains of arsenic; the ligature was removed after twenty-four hours: he lived twelve days; his deglutition was then free; he was killed by the same dose of arsenic given without the peroxide.

Experiment 3. A similar experiment, but the dog lived a fortnight.

Experiment 4. Fourteen grains of arsenic given to a large dog, and a ligature placed round the œsophagus, which was loosened half an hour afterwards to introduce an ounce of the peroxide. The dog wholly recovered, and served for another experiment five days afterwards.

Experiment 5. A similar experiment with six drachms of peroxide; the dog lived.

Experiment 6. Five drachms of peroxide introduced one hour after twelve grains of the poison, and the ligature finally removed in twenty-four hours: the dog died on the third day.

Experiment 7. Twelve grains of arsenic were given to a dog and the œsophagus was tied, but no peroxide given; death in three hours.

No free arsenious acid could be detected in the excrements of any of the animals. MM. Borelli and Demaria consider that four and a half parts by weight of the peroxide are required to neutralize one of arsenious acid. They conclude that it is as certain an antidote to arsenic as albumen is to corrosive sublimate. It should be kept as a soft mass from the contact of the air, lest it should absorb carbonic acid, which renders its combination with arsenic less easy. If it has absorbed carbonic acid, effervescence will be produced by the addition of muriatic acid. The injury to its efficacy by exposure was seen in one experiment where the peroxide had been prepared a fortnight previously, and, although it was given immediately after the poison, the dog died in twelve hours.

Repertorio Medico-Chirurgico del Piemonte, Marzo, 1835.

On the Means of Preventing Poison. By MM. CHEVALIER and BOYS DE LOURY.

THE attention of the authors of this essay was directed to this subject from the numerous trials on account of poisoning which took place in France; and they considered that an examination of the statistics of this crime might lead to measures of prevention. For this purpose they endeavoured to ascertain the number of the accused; the substances employed; the manner in which they were procured; the mode in which they were administered, &c. They collected the following particulars. During seven years 273 individuals have been accused of poisoning; 171 were acquitted and 102 condemned. Particular information could be procured regarding ninety-four of these cases only. More than half the number, that is fifty-four, were cases of poisoning with arsenic, seven with verdigris, five with corrosive sublimate, five with cantharides, four with nux vomica, three with fly-powder, two with nitric acid, one with opium, &c. As far as could be ascertained, the poison had been procured in many cases for the alleged purpose of poisoning vermin, and in others was used in the trade of the criminal. The causes of eighty-four of these crimes were, interest of twenty-eight cases, licentiousness of twenty-four, revenge of fifteen, jealousy of ten, and madness of six.

In eighty-one cases, the poison was administered thirty-four times in potage, two in milk, seven in flour, seven in wine, eight in bread, five in pastry, four in chocolate, four in medicine, two in coffee, one in cider, and two immediately by the mouth (to a woman when drunk, and to a child). Of ninety-four cases, sixty of the accused were men, and thirty-four were women. In many cases the taste or colour of the food with which the poison was mixed saved the victims from the danger to which they were exposed. Seven instances are related proving this. Such facts show that in many cases poisoning might be prevented by colouring, or rendering sapid those poisons whose action would not be injured by such a process. M. Berard has already proposed that arsenic should always be coloured, and the results of these researches justify such a step; for it appears that in sixty-two cases out of eighty-one the poison employed was white; that of these sixty-two there were fifty-four in which white arsenic was used, and that taste and colour in many instances warned the victims of their danger. On examining into the uses to which arsenic is applied it appears, 1. That almost all the white arsenic sold in the country districts of France is employed in the preparation of corn which is used as seed, and for the destruction of rats and mice. 2. That powdered metallic arsenic, or fly powder, is used to kill flies. 3. That white arsenic is used by veterinary surgeons in the diseases of animals, and by some persons for the itch. It does not appear that these uses of arsenic could be interfered with if it was coloured and rendered sapid, and therefore they propose, 1. That it would be useful and even indispensable to mix white arsenic employed for corn, and medicinally, with powdered aloes, in the proportion of ten parts of aloes to ninety of arsenious acid. 2. That arsenious acid employed to poison rats and mice should be mixed with Prussian blue, or soluble indigo in the proportion of ninety parts of arsenic to ten of colouring matter. 3. That "fly powder" should be mixed with a tenth part of its weight of soluble blue.

These plans would not only render poisoning less frequent, by increasing the difficulty of committing the crime, but would tend to prevent fatal accidents. Thus sixteen persons were poisoned at Bressières in 1828 owing to the same sack having been used for flour which had previously held the grain prepared by means of arsenic for seed: and eleven persons were injured by a similar accident at Bourbonne-les-Bains in 1833. *Journal de Chimie Médicale, Avril,* 1835.

[This is an ingenious application of the statistics of crime. Considerable difficulties exist in legislating in such matters; and, even if there were none, the correctness of the principle on which it is proposed to legislate is most questionable. Toffana, and the other secret Italian poisoners of the sixteenth century, carried on their horrid practices at a time when none of the virulent poisons were known which modern chemistry has discovered. The evil depends on a corrupt moral sense, which is beyond the power of any precautionary legislative acts. The colouring of arsenic might prevent accidents, but the wilful poisoner would select some other means.]

PART FOURTH.

Medical Intelligence.

SKETCH OF THE ORIGIN AND PRESENT STATE OF MEDICINE, AND OF MEDICAL INSTITUTIONS, IN RUSSIA;

By **George Lefevre**, M.D., late Physician to the British Embassy at St. Petersburg, &c.

PART I. INTRODUCTORY.

It must be interesting to our countrymen to find that, in the remotest periods to which the origin of medical institutions in Russia can be traced, the foundations were laid by the English faculty; and that the sacred persons of the Czars were intrusted to the care of British physicians, when the art of medicine, as regarded the country in general, was exercised by the clergy alone.

How little influence soever the British may now possess, and how much soever even that little may be upon the decline, still Britain may boast that one of her countrymen is attached to the imperial person, that an English accoucheur has presided over the births of all the imperial children; and, last not least, that the medical institutions of Russia have been formed, and are presided over, by a British subject. It is to the latter individual, viz. Sir James Wylie, that Russia is indebted for the organization of her medical schools, both civil and military; and it has been by his persevering industry that the Medical Academy of St. Petersburg has arrived at the honorable rank which it now holds among medical institutions. Military medicine, in particular, is most indebted to his services; and it is not necessary to refer to very remote periods to shew, by comparison, how much he has done for the wounded soldier.

In the year 1600, there was only one surgeon attached to each regiment containing 1600 men; and the cost of a cavalry regiment for drugs, in 1676, amounted only to forty silver rubles, or about 9*l.* sterling, annually. Even in the present century, at the close of the last war, there was no medical staff; and an officer of rank, wounded on the field of battle, was allowed to take away with him the only efficient medical assistant; but, in the latter campaigns, an abundant supply of medical officers was furnished to the military and naval forces. The common soldier has to thank Sir James Wylie for such care and protection as his predecessor in arms demanded in vain, and the army in general has to thank him for a real and effective, instead of an inefficient and nominal, medical staff.

All institutions in Russia, which are under the protection of the crown, bear more or less the military stamp; and the Academy of Medicine, although a civil institution, is presided over by Sir James Wylie, who unites in his own official capacities the two supreme medical posts in the empire. The difference, therefore, between civil and military institutions is more nominal than real, and, as far as regards the education of students and the school of medicine, there is no practical difference.

Until a recent period, the native Russian was not only destitute of medical advice, but was almost independent of it, contenting himself with such artificial means as chance had discovered to him for the maintenance or restoration of health. Among the chief of these was, from the earliest times, the use of the vapour-bath, which, employed by the people even from their tender infancy, was one of the most essential means of strengthening the body. They were not, however, unacquainted with the virtues and uses of drugs and other remedies. It is stated, and upon good authority, that the use of sublimate dissolved in brandy was known at a very early period in Russia, even before Van Swieten had made it known to the rest of Europe. Their vapour-bath also was not merely employed for purposes of cleanliness and as a preservative of health, but used in cases of sickness as a remedy. The external applications employed in those days were of the most active kind. The actual and potential cautery and dry cupping were in vogue for the cure of local affections, and the highest personages of the state submitted to the application of these rude remedies. Still there is no mention made of a medical faculty authorising and directing such operations, or of any physician or surgeon of eminence.

The first physician, or at least the person who lays claim to that title, was Johannes Swera, a Pole by birth, who was attached to the person of Vladimir the First, and sent by him into Egypt, where he was baptised a Christian in 990. Of his medical abilities nothing is known; he seems to have devoted his life to religion.

The progress of medical science was arrested for many successive years after this period by the wars carried on against the Tartars; and the horrid plagues and famines, which for so long a period desolated the empire, prevented the influx of scientific men of all classes from abroad.

In the year 1128, the first traces of a medical police are to be found in Russia: this comprised little more than the appointment of certain persons to carry the dead bodies out of the town of Novogorod, and bury them in the environs.

The unhappy fate of Dr. Leo, a Venetian Jew, who accompanied *Andrew*, the brother of the Grand Duchess Sophia, from Venice to Moscow, forms a memorable item in the medical history of this period. Soon after his arrival, says the historian Richter, Dr. Leo had an opportunity of proving his skill. Ivan Ivanovitch, son of the reigning prince, suffered from a species of gout in his foot. The newly-arrived doctor, presuming too much perhaps upon his own skill, promised the father of the young prince that he would cure the disease, and engaged, if he failed, to forfeit his life. He administered some simples internally, and applied locally glasses filled with hot water: unfortunately these measures had not the desired effect, and the patient died in his three and thirtieth year. As people in those days believed in the infallibility of medicine, so they ascribed the failure to evil disposition of the doctor, and he was publicly executed.

No mention is made of any foreign medical arrival for a considerable period afterwards. In the mean time plague and famine devastated the empire, and several diseases, hitherto unknown, increased the wretchedness of those times: among these are enumerated the leprosy, the hooping cough, the English sweating sickness, the scurvy, the plica polonica, and the venereal disease. Of the dreadful ravages of the plague, the following account of it in the small town of Dorpat will furnish an adequate idea: "Insuper et pestilentia tam atrociter sæviebat ut anno 1551, Torpati trimestri spatio 14 millia hominum morerentur. Tanta erat ægrotantium multitudo, ut in cæmeteriis, in campis, in propatulo passim miserabiliter decumberent."*

Forgetful of the fate of Dr. Leo, or zealous in the desire of combating these new diseases, foreign physicians began again to creep into the empire. Two Germans, of the names of Theophilus and Lujeff, were called to court in 1534, and desired to treat the Prince Vassilig Ivanovitch for a carbuncle; and boldly attempted to cure the disease, but were unsuccessful. The prince, finding no amendment, sent for Dr. Lujeff, and asked him if it were possible to cure *him!* to which question the doctor made this reply: "My lord and master,—when I was at home in my own country, and heard of your great goodness and liberality, so quitted I my home, even my father and my mother, to come and see you; but can I raise the dead, as I am not God Almighty?" Upon which the prince turned to his courtiers, and said, "Nicholas has passed sentence upon me!" The fate of the Prince in this instance brought no discredit upon the doctors.

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* Breodenbach Historia Belli Levanici in Rev. Moscow.

There was still a demand for foreign talent, and the Czar wrote to Charles the V., and to the Emperor Rodolph the II., to beg them to send artists and learned men of all descriptions to Russia.

Now commences also the æra of the influence of the British faculty in Russia; an influence which preponderated greatly over that of other nations for the space of two centuries.

The celebrated navigator, Sebastian Cabot, fitted out an expedition for the discovery of a North-West Passage to China and India. Three of the ships set sail from England on the 20th May, 1553, under the command of Hugh Willoughby. A furious storm caused them to part company: one of them went to the bottom. Willoughby reached the harbour of Arzina, in Russian Lapland, and was frozen to death, with all his crew. The *Bonaventura*, commanded by Richard Chanceller, arrived in the White Sea, and got into the bay of St. Nicholas, which formed subsequently the port of Archangel. Chanceller was received at Moscow with much cordiality by the Czar, and returned twice to Russia, in 1555 and 1556. He was drowned on his return to England, in the last-mentioned year. This discovery of Russia, as it may be styled, was the means of opening a commercial intercourse between the two Countries.

Anthony Jenkinson, who followed Chanceller in 1557, brought with him a doctor; and during the reign of Elizabeth, this same Jenkinson *imported* at different periods no less than fourteen doctors and one apothecary.

Queen Elizabeth sent Dr. Jacob to Russia, and recommended him as being well skilled in female complaints, having often benefited herself by his advice, and she assured her beloved sister the Czarina, that he knew more about the situations of lying-in women than even the midwives themselves. Dr. Jacob was one of the physicians whom Anthony Jenkinson took to Archangel, and he was followed a few years afterwards by Dr. Marcus Rydley, who was chosen for the service of the Czar by Lord Burleigh, and was recommended as a man learned and expert in his profession. He was a Graduate of Cambridge and a fellow of the Royal College of Physicians. He was a great favorite at court, and remained four years in Russia. After the death of the Czar, he was recalled by Queen Elizabeth, and permission was granted him to return to his native country by the Czar's successor; who, at the time of taking leave of him, gave it to be understood that, if in future any English physician, apothecary, or other learned personage, should desire to come to Russia, he might depend upon a kind reception, a due maintenance, and free permission to return home.

Relying upon these promises, Dr. Willis accepted the conditions in 1593. Hardly had he arrived, however, before he was very ungraciously sent out of the country, being accused of meddling with politics; and the Queen herself received an injunction to forbid her ministers sending any such man in future to the court of Moscow. It is but justice to his memory to assert, that his medical talents were not called in question; but a singular charge was brought against him, that he did not bring with him a sufficient stock of books. The Queen took up his defence very warmly, in a letter which she herself wrote to the Czar; and, touching his meager supply of books, she observes, that the doctor, in reply to this charge, answered, "that hee sent both his bookes and drugs along by sea, and hee himselfe travayled over land, by which passage he could not have convoyance for those things, &c. &c."

Of John Fensham, the apothecary, it is stated that he brought with him a great quantity of drugs; and, in the list of those he imported, the Confectio Eryngæ figures at the top; the people of Eastern origin formerly ascribing particular virtues to this remedy.

The oldest medical manuscript in the Russian language bears the date of this period, 1588. It is a translation from the Polish, contains 1561 folio leaves, and savours not a little of the ignorance of those ages. The influence of precious stones had much credit in those days, and the author observes, that garnets rejoice the heart, that the magnet grows in the great Indian Ocean, and he who carries about with him rubies will have no frightful dreams.

The influx of foreign physicians from all parts of Europe into Russia, and the necessary admission of some adventurers, furnished with false diplomas, and totally disqualified to practise their profession, arrested the attention of the legislature, and in the reign of the Czar Michael Feodorovitch (1613-1645), a Board of Examination was instituted for proving the qualification of strangers who came to practise the medical profession in Russia. Under the titles of Apothecary's Hall, Apothecary's Chancery, Medical College, Physicant, &c., it has with some trivial changes been transmitted down to the present time. It was originally composed of doctors belonging to the court, and of some of the high dignitaries of the state; and all physicians and apothecaries without exception were subjected to its control.

The principal duties consisted in ascertaining that the imperial pharmacy was well supplied with drugs; in appointing army surgeons, and supplying military medicine chests; in paying the yearly salary of the medical officers, and in settling all disputed claims. All newly arrived physicians were ordered to announce their arrival at the foreign office, from whence they were directed to this tribunal, where they underwent an examination to prove their qualifications, and receive their different appointments in the Czar's service. It was the privilege of this office to appoint medical men to attend upon the sick nobility and wounded military, and there was no appeal against its decisions.

It was also its especial duty to watch over the health of the inhabitants and prevent the propagation of contagious diseases. Still, however, no quarantine laws were established during the reign of Michael Feodorovitch; and, what is still more striking, is the circumstance that, up to this period, and for a long while afterwards, Russia was never so free from plague and pestilence as during the long reign of this Czar. It was considered sufficient in those days, when a traveller arrived at the gates of the city, to enquire of him, if he had encountered the plague in his travels, and to make him indicate the place where he had observed it. Under this Czar an ukasa was published, (in 1637,) forbidding the execution of pregnant women; and respiting them till six weeks after the birth of their offspring. Another order was issued for devising the best means of arresting the murrain among cattle; and this was achieved by the vigilance of a well-directed medical council.

It was during the reign of this Czar, also, that our countryman, Dr. Arthur Dee was invited to reside at the court of the Czar's; and he accompanied the Russian Ambassador to Moscow in his medical capacity. We find no less than four royal epistles written on his account; and no physician in those or even in later times was ever so well paid or received such presents. Independently of his salary and other perquisites appertaining to his situation at court, he enjoyed the revenues of an estate near Moscow for many years, and he possessed a brick house in that city sixty fathoms long and forty fathoms wide, which he was afterwards permitted to sell to his countryman, Simon Digby. Upon his return to England, he was appointed body physician to Charles I.; and, after the death of that unhappy monarch, he quitted public practice, and devoted the rest of his days to the discovery of the philosopher's stone. It is no where stated, says Dr. Richter, that he furthered the progress of medicine during his long sojourn in Russia, although he published a work in Moscow, with the title "Fasciculus chimicus, obstrusæ Hemeticæ scientiæ ingressum, progressum, coronidem explicans."

The name of Dr. Dee was afterwards quoted by his countryman Dr. Anthony to sanction the employment of some chemical preparations, which he sent out to the Czar, "highlie cordiall of excellent vertue, and singular use for prevention and for cure of most infirmities." These were a tincture of gold and a preparation of gold in powder.

His successor, Dr. Bremberg, a Dutchman, came to Russia uninvited, professing to cure most diseases by secret remedies, and despising the faculty individually and collectively. He produced testimonials of having performed wonderful cures; as, 1. That he had saved the hand of an Englishman, and healed it by simple means, after it had been condemned to be amputated by other doctors. 2. That he had taken off a middle finger without using the saw. 3. That he had been instructed by the best masters how to cure ruptures. 4. That he knew the secret of dissolving the stone in the bladder by internal remedies, and of expelling it afterwards. 5. That he first observed how useless the operation of trephining was in wounds of the skull, and had discovered a much less cruel method of cure. 6. That he could cure the gout in a superior style, and all other human infirmities. All these advantages, however, availed him nothing: he was sent out of the country, and branded as a quack.

Passing by several artists of minor note, we find that the reputation of our countryman, Dr. Peter Chamberlayne, had attracted the attention of the Czar, who wrote with his own hand a letter to Charles I., begging him to allow the doctor to enter into his service, understanding that he was willing to do so. Great preparations were made for his reception at Archangel, which was the way from London to Moscow in those days; but a letter arrived from the king, excusing himself for refusing the Czar's request, upon the grounds that, as Dr. Elmston, a native Russian, had been studying medicine in England, and had returned to his own country, so was he capable of filling the office of body-physician to the Czar.

Previous to this period, the Russian government tried the experiment ot supplying itself from its own resources; exporting native Russians to study abroad, and qualify themselves for exercising the healing art in their own country. To fulfil this intention, three young men were sent to study medicine in Holland and in England, and were supplied very liberally with funds for this purpose. Elmston was one of these, and he remained thirteen years in England, prosecuting his medical studies; but neither of him nor of his two colleagues is any honorable mention made after their return to their own country.

The ravages of the plague, which raged in Moscow in 1656, led to the establishment of rigid quarantine laws. All communication was cut off with the city, and a violation of the law was punished with death. No persons from the neighbouring towns were allowed to go there. All travellers proceeding thence were detained, examined, placed under the observation of the police, and only allowed to speak with the inhabitants at prescribed distances. The clothes of the sick were ordered to be burnt, and those which were not destroyed were fumigated. The doors of the cottages were left open, and the chambers thus exposed for a fortnight to the severity of the cold, after which they were fumigated with wormwood during three successive days. All the official papers that arrived from Smolensk, which still suffered from the plague after it was stayed in Moscow, were copied afresh, and the original manuscripts burnt.

When the plague broke out in London only a few years afterwards, so great was the fear in Moscow of its being again imported into the city, that Dr. Wilson, who arrived from England the same year, was obliged to undergo several ablutions, and not allowed to go into the capital till some months after his arrival.

The mystical revelations in those days, and the universal belief in astrology, and the influence of the stars in earthy affairs, had great weight with the government. By command of the Czar, many questions were put to the physician and astrologer, Dr. Engelhart, who was in Moscow at the time, concerning the impending variations of the ensuing year. Upon which he predicted in his reply, in December, 1664, that a dreadful plague would sweep over other countries besides Russia. The verification of the prophecy, as regarded England, added to his reputation, and the government redoubled the rigidity of all the quarantine regulations. The port of Archangel was closed, and all communication cut off with England.

Of all the physicians hitherto known in Russia, Dr. Samuel Collins is reputed to have been, without exception, the most celebrated for his writings. He was a graduate of Oxford, and accompanied the imperial Commissary Gebdon to Moscow, who had been sent to Holland and other countries in order to procure celebrated men for the Czar's service. He was contemporary with Dr. Engelhart, but, unlike his colleague, he turned his attention to the demonstrative sciences, and wrote a work upon anatomy, which gained him the commendations of Haller. He practised eight years at the imperial court, and received great honours and rewards. He remarks that, during the fasts, physicians were not allowed to prescribe any substances from the animal kingdom; so strictly was it forbidden to take any thing animal into the stomach.

The feeble health of the Czar Feodor Alexevitch obliged him to have frequent recourse to his physicians. There was a distrust in his courtiers of the loyalty of the foreigners about his person; and, as all the doctors and apothecaries were strangers, fears were entertained that they might be instigated to administer poison to the Czar or to some of his family. Dr. Rosenberg, the chief physician at court in that reign, stated that he himself saw an apothecary forced to swallow the remainder of a potion, in the preparation of which he was supposed to have committed some error. It was the custom in those days in Russia, as it is in Persia at present, to make some of the persons about court swallow a portion of every medicine prescribed for the sovereign. A lady, who had taken some physic intended for the Czarina was suddenly taken ill, and suspicions fell upon the apothecary. He was not only obliged to swallow his own medicine, but was sent into exile, although he protested his innocence, and declared that both he and the physician who prescribed had always taken a portion of every medicine which was destined for the Czar or for any of the imperial family.

An oath was now administered to the different persons about the Czar, and to the doctors in particular, by which they swore not to put poisonous herbs or roots into the victuals or clothing of the imperial person. It was enjoined, that every recipe should be translated into Russ, and deposited in the chancery; and the name of the doctor and the patient, with the date of the day and month, were all registered in a book.

The next physician of note was sent to Russia by the Emperor Leopold, at the request of Peter the First. He was a Greek by birth, and was the first who introduced the inoculation of the small-pox into Europe. He published a work under the title "Nova et tuta variolas excitandi per transplantationem methodus." He seems to have divided this honour with Emanuel Timon, who flourished about the same period, and wrote a work with the title "Historia variolarum quæ per incisionem excitantur."

The experiment of sending native Russians to study medicine in foreign countries was again tried by Peter I., who sent Posnikoff, the son of a Russian nobleman, once Ambassador in England, to attend the schools of Italy. He graduated with great honour at Padua in 1696, and took degrees in philosophy and medicine. He was subsequently attached in his medical capacity to several Embassies, and returned to Russia, in 1701, to practise his profession. He received a salary of five hundred silver rubles from the court; but, of his future medical career, nothing is handed down.

The regeneration of the Russian empire under Peter the Great was the dawn also of the organization of medical as well as of scientific institutions, and the Academy of Sciences, which has by degrees raised itself to some eminence in Europe, was founded by that monarch, and completed by his widow. The first president of the Academy was Dr. Blumentrost, the body physician of the emperor.

No mention is made in Russian history of institutions for the sick and infirm, till about the year 1682, when a private gentleman, of the name of Rtischeff. bought a house, and converted it into an hospital for the reception of from thirteen to fifteen invalids. Rtischeff was the Howard of Russia, and devoted his time to visiting the prisoners, ameliorating their condition, and releasing many by paying their debts. His example was soon followed by the government, and the reigning monarch issued an order for the establishment of a large hospital in Moscow. The endowment of this hospital led to the establishment of a school of surgery: it was placed under the superintendence of a governor: a physician, three or four surgeons, and several students, attended the wards. In the course of time a pharmacy was attached to it. The funds were supplied by the revenues arising from the lands of the former archbishop of Archangel, and from the money deposited in all the churches, in the poor's box. The owner of the boor was then, as now, obliged to pay for his maintenance whilst in the hospital; but in those cheap times any individual might rent a bed, or any number of beds, at the moderate price of ten silver rubles per annum, which bed he could always keep occupied. This practice still exists, with the difference only that each boor pays at the rate of four silver rubles per month, whereas the free man is admitted gratis. This seeming anomaly is explained by the circumstance that the owner of the slave is obliged to provide for him in sickness, and consequently, if there were no such regulation, the hospitals would be crowded with all the sick and infirm boors, and the poor freemen would be excluded from such advantages.

Peter the Great, soon commenced preparing a receptacle for his wounded seamen, after the famous battle of Narva. In 1706, a military hospital was erected in Moscow. It is supposed that the idea was suggested to him when he visited Greenwich, in 1698. He established within its walls an anatomical theatre and a school of surgery.

The monarch was about to create a new city in his empire, and one of the first public buildings was a naval and military hospital, founded in the year 1715, of which the foundation-stone was laid by the monarch himself. The hospital was opened for the reception of wounded soldiers and sailors in the year 1720, and it contained as many as 500 invalids. To supply funds for its maintenance, it was ordered that, upon every military promotion, each officer, whatever his rank, should deposit a month's pay, annually, into the hospital fund. Within the walls of this same building was originally established, and still exists, the Medico-Chirurgical Academy and the School of Medicine of St. Petersburg.

Peter not only studied, but actually practised, the healing art. In the year 1698, he studied anatomy in Leyden, and subsequently in Amsterdam, under the celebrated Ruysch. "Gloriosum id manebit semper Ruysshium corporis humani fabricam exposuisse Petro Primo Magno Russorum Imperatori, qui intentissimo auscultebat animo, super omnibus rogitabat sedulo, atque habebat in memoria semper quod viderat semel." He attended the lectures on anatomy given by Bidloo in Moscow, and was often present at the dissections; and it is reported of his zeal, that he ordered the dissection of a half-witted page, who had died drunk, to be postponed till he could attend in person. His attention was particularly directed towards monstrous formations, and he ordered all that could be collected in the empire to be brought to St. Petersburg: hence the immense number which are still to be seen in the museum. He did not confine his studies to the theories alone, but was himself a practical surgeon, and always carried about his person two pocket cases, the one containing mathematical, the other surgical instruments. The latter was furnished with lancets, tooth-forceps, a saw-knife, a spatula, a pair of scissors, a sound and catheter, &c. He gave orders that he was previously to be informed of any remarkable operation, either in public or private; and, if it were possible, he attended and assisted in the performance. All the minor operations, as tooth-drawing, bleeding, bandaging, &c. he continually performed himself. A merchant who had an abscess in the foot was cured by the Emperor, who himself made an incision, and the operation was successful; but the circumstance coming to the knowledge of the Duchess of Mecklenberg, who had a similar disease, she left the city in post-haste, for fear of his assistance. The *chef d'œuvre* of his operations was the paracentesis abdominis, which he performed upon a merchant's wife, who had resisted the advice of her doctors, and would not submit to the operation. This coming to the ears of the emperor, he visited her, and persuaded her to let him perform the operation himself. In the presence of the faculty he drew off twenty-four pounds of water; but the operation was performed too late, and the patient died.

Under such auspices the medical institutions of course flourished. The Academy of Sciences was enriched by a collection of anatomical preparations, purchased for the sum of 30,000 guilders, and which had belonged to the celebrated Ruysch. During the reign of this great monarch, the foundations of hospitals, anatomical theatres, museums, and cabinets of natural history, were laid on a firm and solid basis. The giant and the dwarf of Peter the Great figure in the page of medical history, and their stuffed skins are still to be seen in the museum; for they were flayed after their death, and their skins stuffed like those of animals. It does not appear that this monarch intrusted his health to the care of any English physician; his favorite medical adviser was Bidloo, by whom he was attended in his last illness.

Although no British physician was immediately attached to the person of the emperor, if we except the surgeon Horn, who used to introduce the catheter, yet the greatest honours were conferred upon Dr. Areskin, (Erskine?) who, in 1716, was named Archiater of the Russian empire, and president of the whole medical faculty. In the history of this individual we have a second instance of English physicians in Russia being accused of political intrigues. Dr. Areskin was charged with the crime of favouring the Jacobites at the Russian court, and of being in correspondence with the Earl of Marr. He fully justified himself against all such charges, but died soon afterwards at Olonets.

The army medical staff particularly engaged the sovereign's attention, and he issued an ukass specifying the number of medical officers to be supplied for the whole army. Each division was now furnished with a physician and staff surgeon. Each regiment had a surgeon, and every company a felcher (surgeon's mate). Two military medicine chests were allotted to the whole army, and to each of these was attached an apothecary, two assistants, and four apprentices. The same arrangement was introduced for the service of the fleet.*

We must not omit mentioning a lithotomist, who came to Moscow from Constantinople during this reign. The Czar Michael Feodorovitch suffered from a stone in his bladder; and he requested the Sultan Ibrahim to send him an artist from Constantinople. It is not recorded that this request was granted; but in the year 1716, a Greek, named Fotii Nicotajeff, who had practised as a lithotomist and hernia doctor in Bucharest, came to Moscow, and brought with him a pupil, Dmitri Minaja. They had both acquired the method of making the simple incision, after the manner of Celsus, without introducing the grooved sound as a guide. The son of this Dmitri Minaja still practises in *Moscow* as a lithotomist, and performs the operation empirically, but with considerable success.

During the succeeding reigns of Catherine the First, of the empress Anne, and of the empress Elizabeth, there is nothing particularly worthy of mention. The Academy of Sciences, founded by Peter the Great, was opened to the public by his widow, in 1726, and Dr. Blumentrost was appointed president.

During the reign of the empress Elizabeth, schools of midwifery were first instituted, and ten native Russians were sent to Holland to study medicine.

There is little mention made of British physicians, from the time of Peter the Great's death, to the accession of Catherine the Second. The tragical fate of Lestocq, the physician and favorite of the empress Elizabeth, may have had its influence in preventing medical men from seeking their fortunes in Russia. Accused of treason by those whom he had most served, Lestocq was tried, and condemned to death. His sentence was never put in execution, for the Empress would not allow it; he remained four years in prison, when his sentence was revised by the court, and he was banished to Siberia.[*] He was recalled by Peter the Third, and died at St. Petersburg, in 1767.[†]

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* Geschicte der Medecin in Russland, entworfen von Dr. Wilhelm Michael von Richter. Moscow, 1819.

Upon the accession of Catherine, British physicians again flourished at the court of St. Petersburg. The invitation sent to Dr. Dimsdale, to come to Russia and inoculate the Empress, was a marked honour conferred upon the British faculty.

In 1768 the small-pox was rife in Petersburg, and the Empress, with the courage which characterized all her actions, set the example of inoculation to her subjects, by being first inoculated herself. Matters were soon arranged for putting the proposal into execution, for the Empress was decided upon submitting to the experiment. Dr. Dimsdale requested the assistance of the court physicians; but the empress would by no means consent to any consultation, and gave her reasons as follows: "You are come well recommended to me; the conversation I have had with you on this subject has been very satisfactory, and my confidence in you is increased. I have not the least doubt of your abilities and knowledge in this practice; it is impossible that my physicians can have much skill in this operation: they want experience; their interposition may tend to embarrass you, without the least probability of giving any useful assistance. My life is my own; and I shall, with the utmost cheerfulness and confidence, rely on your care alone. With regard to my constitution, you could receive no information from them; I have had, thank God, so good a share of health, that their advice has never been required; and you shall, from myself, receive every information that can be necessary."[‡]

After the operation was performed, the Empress went to Tzarsko-seto. It was done privately, and without the knowledge of the court; but as several of the nobility followed her, and as she observed some whom she suspected not to have had the small-pox, the Empress said to Dr. Dimsdale, "I must rely on you to give me notice when it is possible for me to communicate the disease; for, though I could wish to keep my inoculation a secret, yet far be it from me to conceal it a moment, when it may become hazardous to others."

The Grand Duke, shortly afterwards, submitted to the operation; and on his recovery, Catherine rewarded the services of Dr. Dimsdale by creating him a baron of the Russian empire, and appointing him counsellor of state, and physician to her imperial majesty, with a pension of £500 a year to be paid him in England, besides £10,000 sterling, which he immediately received.

The examples of these illustrious personages had such immediate influence, that most of the nobility, both of St. Petersburg and Moscow, were impatient to have their families inoculated. On the 3d Dec. 1768, a thanksgiving service was performed in the chapel of the palace, on account of her majesty's recovery, and that of the Grand Duke, from the small-pox. The metropolitan delivered an impressive discourse, in which he celebrated the resolution and magnanimity of the Empress; and in the course of the sermon, remarked, "that the Russians had borrowed assistance from Britain, that island famed for wisdom, bravery, and virtue."

Before Baron Dimsdale left St. Petersburg, an inoculation hospital was established for poor children. This institution was superintended by Dr. Halliday, an English physician, who practised a long time in Russia. When the pestilential disease broke out in Moscow, and caused such sad disturbances, this gentleman was sent by the Empress to report upon the nature of the malady. He performed his task so much to the satisfaction of Government, that he was rewarded with a handsome pension for life.

This was not the only hospital founded by Catherine the Second; to that sovereign is due the finest establishment of its kind in Europe, viz. the Foundling Hospital of Moscow. The plan of this institution differs from the foundling hospitals and enfans trouvés of other countries. It is a reception for illegitimate children, it is true; but it admits children born in wedlock, of parents who are too poor to rear their offspring: hence it is styled Maison Impériale d'Education. Nothing can equal the care and pains bestowed upon every department of this establishment.

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[*] Tooke says to a village near Archangel—Coxe says Siberia.

[†] Tooke's reign of the empress Catherine the Second.

[‡] Idem. Tooke.

Other hospitals and medical institutions, both in Moscow and St. Petersburg, were founded by the Empress, who, during her long and glorious reign, encouraged everything connected with the arts and sciences.

Her body physician was the late Dr. Rogerson, a great favorite at the court of St. Petersburg. He lived and practised amongst the nobility, and the success of his career speaks well for his merits. He retired from service with such a well-requited reputation as falls to the lot of few.

Beyond this period, which terminated with the death of Catherine, in 1796, I have not thought it advisable to proceed with the biographical part of the sketch that I have proposed furnishing. It has been the lot of the distinguished individual mentioned in the first pages to create a new æra in the annals of medicine in Russia; and it remains to speak of the medical institutions as they now exist, assigning to him the credit that they are as they are.

Mr. Tooke, in his work entitled "The Reign of Catherine," has given in his last chapter a summary account of the state of the arts and sciences at St. Petersburg during the reign of that sovereign, and has not omitted the art of medicine. Even medicine, says the author, was but lately in so uncultivated a state, that, in the year 1770, perhaps there were not three books on medical subjects in the Russian language. Among the physicians who have deserved well of their country in this art may be cited Ambodik, professor of midwifery, who has eminently contributed to the enriching of Russian medical literature. He is the author of a plain and practical Manual of the Art of Midwifery, a Physiology, a Materia Medica, and an Anatomical Physiological Dictionary in Russ, Latin, and French. An enlarged and reformed translation of Saucerotti's celebrated Examen, under the title of "a Brief Examination of inveterate Prejudices and Notions concerning Pregnant Women, Lying-in Women, and New-born Children," a book that has already gone through several editions, is also from his pen. He is likewise the translator of Schreiber's "Guide to the Knowledge and Cure of Outward and Inward Diseases," and of Home's "Principia Medicinæ." Tissot's writings, "Avis au Peuple," and of the disorders incident to the Learned, are also translated into the Russian, by Drs. Ozeretzkofsky and Schumlianski. Several small pieces by Tichorsky, Dr. Mead's Dissertation on the Plague, Van Swieten's Description of Camp Sickness, and Baron Dimsdale's Method of Inoculating the Smallpox, have all been translated by Russian physicians. Dr. Bacheracht, a German, published a popular book on several diseases, another on Intemperance in Sensual Enjoyments, a Proposal for Preserving the Health of Seamen, a Treatise on the Scurvy, &c. M. Vien, secretary of the College of Medicine, published a very complete Loimology. The Privy-counsellor Peken is the author of a Physiology and Pyrethology for use at lectures, and the translator of Richter's Elements of Surgery. Spedikati wrote a controversial piece on the Scurvy, against Bacheracht. A translation of the Institutions of Gaubius was published by Professor Hoffman.

St. Petersburg, Dec. 1835. G. L.

MEDICAL ASSOCIATION OF BELGIUM.

THE first meeting of this new Association was held at Brussels on the 24th of September, 1835, and the six following days. The October number of the *Bulletin Médical Belge* is wholly occupied with an account of the proceedings.

September 24th. Dr. Marinus commenced the business by an oration. He stated the objects of the Association to be the advancement of medical science and union amongst medical men, and quoted the following passage, which pleasantly contrasts these assemblies, so characteristic of the present day, with those of the middle ages. "In the middle ages (says M. Poujoulat,) they assembled to discuss theological questions, to establish doubtful points of Christian faith; red hats and bishops' mitres were gathered from all quarters into one spot. Others met to cut and hack each other beneath the auspices of noble ladies, or to settle the affairs of love; and barons, minstrels, and knights, poured in from all sides: but the day for councils, tournaments, and courts of love, is past, and Associations for Science have replaced all the pompous spectacles of the Church and of Chivalry." He traced the history of the annual Scientific Meetings, from the first which was held at Leipsic in 1822, owing to a suggestion of Professor Ocken, and explained the manner in which they promoted science. The examples of Vesalius, Van-Helmont, and other Belgians whose names are distinguished in the annals of medicine, were urged as reasons why Belgium should not be behind-hand in the march of improvement. The speaker regretted the prejudice existing against native authors, which is so great that a Belgian in order to obtain readers has printed his works in Paris; and he entreated that the new medical journal now published in Brussels might be supported by native talent. This address was ordered to be printed.

September 25th. Dr. Fromont opened the meeting by an address in favour of the Association. M. Marcq followed, and gave a sketch of the present state of medical opinion: as an ardent disciple of Broussais he condemned the more modern eclecticism. "Water," says he, "is my universal panacea, it is the only remedy in which I rely, and not without success, in the adynamia of typhus and in the cold stage of cholera." He declaimed against homœopathy, and concluded by moving a resolution expressive of the disbelief of the Association in this new doctrine. This was negatived, as in the discussion which followed a few of the members expressed their adhesion to the doctrines of Hahnemann.

M. Burggraeve described and showed drawings of some human monsters.

September 26th. The discussion was resumed on homœopathy.

M. Bosch read two cases and observations upon them. The first was that of an infant uttering cries in utero. A woman had been in labour twenty-four hours when M. Bosch was called in. Six hours previously the waters had been discharged, and the midwife, to hasten delivery, had constantly introduced her hand into the vagina, and perhaps into the uterus, notwithstanding the cries of the patient. The parts were swollen and painful: the position of the head was transverse, the turn into the sacrum not having commenced. Whilst applying the forceps M. Bosch heard the cry of the fœtus, and on expressing his surprise, the father and five attendants said they had heard the same noise shortly after the waters came away. The cry was repeatedly heard before the delivery was effected. The child died twenty-four hours after birth. There are two cases on record of the same nature, and in a medico-legal point of view it is important. Orfila admits that a child may cry in utero if its mouth is at the os uteri: here however this was not the case. The introduction of the hand might have been the means of introducing air into the uterus. In drawing any conclusions from the hydrostatic test, the possibility of such a case as this should be borne in mind.—2d *Case.* M. Bosch examined a woman at the ninth month of pregnancy, the superior aperture of whose pelvis in the antero-posterior diameter was contracted to two inches and three quarters, from rachitis. He was on the point of prognosticating the impossibility of delivery and the necessity of the Cæsarian section, or of the division of the symphisis pubis, when on examining the os uteri he found that the head of the child had been developed in the cavity of the pelvis, which it filled: the inferior aperture was not contracted. The labour was easy and natural. This circumstance shows the possibility of natural delivery in a woman with so deformed a pelvis that the Cæsarian operation might have been required on a previous occasion.

M. Fallot proposed that the legislature be petitioned to determine expressly by law the question of medical responsibility. Carried.—M. Jullien proposed that a board of health be established at Brussels, and in the chief towns, as in Paris, to act in concert with the municipal body in taking measures for the public health. Another request was also made and carried, that the government should adopt the necessary measures for the institution of an Academy of Medicine.

September 28th. Discussion on M. Bosch's case.

September 29th. M. Branders detailed the particulars of a case of intermittent mental derangement of a man forty-five years old: the intermittence, which is of the tertian type, has lasted many years. During the paroxysms he is very violent, and would injure himself were he not confined with the strait-waistcoat and his head guarded with pads. He is so well aware, in his lucid intervals, of his deranged propensities, that he submits willingly to these precautions, and allows that they save his life. To be printed.

M. Marinus proposed that the government be petitioned to suppress the laws concerning patent medicines; and to expedite the publication of the Belgian Pharmacopœia. Carried.

September 30th. M. Valerius spoke at some length on the necessity of adopting means for raising the standard of "pharmaciens" in Belgium, who as a body are ignorant and deficiently educated. He confined himself to general statements, and the subject was deferred until the next session. A discussion followed on the selection of a subject for a prize of one thousand francs, which sum had been offered by a friend of medical science for the best essay on any subject that the Belgian Association should consider most useful to humanity. The following was ultimately fixed upon. "To set forth and determine the medical means and administrative regulations best adapted to put a stop to, or diminish, the propagation of syphilis." Essays legibly written in Latin, French, English, or German, to be directed (carriage paid) to Dr. Dieudonné, secrétaire de la commission permanente, rue de l'Empereur, No. 29. Each essay to be headed by a motto, and accompanied by a sealed letter directed with the same motto, and containing the names, titles, and abode of the writer. This concluded the business of the Association. Seventy-two members were present; ten others, who were unable to attend, enrolled their names.

Bulletin Médical Belge, No. 10, *Octobre*, 1835.

MEDICAL REFORM IN SPAIN.

In the *Boletin de Medicina, Cirujia y Farmacia,* No. 75, tom. ii. 1835, Jueves, 5 de Noviembre, is a royal decree, dated Nov. 1, 1835, constituting a commission of five persons and a secretary, (among whom we observe the name of our friend and correspondent, Dr. Mateo Seoane, "vocal de la junta suprema de Sanidad,") for the purpose of "examining and proposing such modifications as the existing laws are susceptible of." The following is the preamble of the decree: "Animated by pure zeal for the preservation of the public health; convinced of the necessity of rendering uniform the studies which are the basis of the healing art, in all the universities and colleges which now exist or may hereafter exist; and persuaded of the advantage of duly honouring those who dedicate themselves to a profession as noble as necessary; I have thought well to institute a commission which may examine and propose to me such modifications as the laws now in force may be susceptible of, and whatever else may contribute to its lustre and welfare."

QUALIFICATION OF DENTISTS IN PRUSSIA.

By a government order, dated the 29th April, 1835, directed to the different governments and medical colleges of the kingdom, it is decreed, that no person shall be admitted to examination for a licence to practise as a dentist who, in addition to his testimonials of having acquired practical dexterity in his art with a licensed and practising dentist, shall not adduce proofs of being in one or other of the following conditions:

1. Of being a licensed physician or surgeon;
2. Of having served three years as surgeon in the army;
3. Of having obtained such knowledge and skill as are necessary for a surgeon in a regular attendance at places of public education.

In reference to this last condition, he must bring testimonials of having attended, during a curriculum of two years, lectures on anatomy; the theory of medicine; general, special, and operative surgery; a chirurgical clinic, and, when practicable, particularly on dental surgery.

Rust's Mag. B. 45, Heft 1, 1835.

ENCOURAGEMENT OF VACCINATION IN PRUSSIA.

By an official notification from the department of the Prussian government having charge of ecclesiastical, educational, and medical affairs, issued at Berlin on the 14th March, 1835, it is intimated to the different governments of the kingdom, that a silver medal has been struck at the royal Mint, for the purpose of being presented to the parents and relations of children who shall bring them forward, when vaccinated, with the view of supplying the public establishments with vaccine matter; and the public vaccination boards are permitted to use their funds for the purchase of the medals to be so employed.

Rust's Magazine, B. 45, Heft 1, 1835.

RELATIVE VALUE OF APOTHECARIES' WEIGHTS IN DIFFERENT COUNTRIES.

§ 1. In *England, Germany, Belgium, Sweden, Spain,* the medicinal *pound* is divided in 12 ounces; the *ounce* into 8 drachms; the *drachm* into 3 scruples; the *scruple* into 20 grains. The ounce, consequently, contains 480, and the pound 5760 grains.

§ 2. In *France,* the medicinal pound contains 16 ounces; the ounce 8 drachms; the drachm 72 grains.

In *Rome,* the medicinal pound contains 12 ounces; the ounce 24 *denari*; the denaro 24 grains.

In *Naples,* the medicinal pound contains 12 ounces; the ounce 10 drachms; the drachm 3 scruples; the scruple 20 *acini.*

§ 3. The following is the relative value of the medicinal pound in different countries, reduced to one standard, the French *gramme,* (equal to 0.06475 of the English grain.)

	Grammes.
England,	373.24*
France,	489.50
Austria,	420
Prussia,	350.78
Saxony, and most of the other German States,	357.56
Bavaria,	360
Belgium and Holland,	375
Sweden,	356.29
Poland,	358.51
Milan,	420
Naples,	320.76
Rome,	339.13
Spain,	230

* 372.96, Edin. Dispens.

Annalen der Pharmacie, xii B. Heft 3.

IRISH MEDICAL CORPORATIONS.

No. 1. *Medical Degrees* (M.B., M.D.,) *granted by the Trinity College, Dublin, during the last Ten Years.*

Years	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	Total
Degrees	4	18	16	10	10	17	19	16	19	16	145

Note.—The proportion of M.B. to M.D. degrees may be reckoned, perhaps, as three to one. Very few take the degree of M.D., except such as intend practising in London, and who take an *ad eundem* degree at one of the English universities. There was no "commencement" in 1826, which accounts for the small number of graduates.

No. 2. *Admissions into the King and Queen's College of Physicians, in Ireland, during Ten Years.*

	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	Total
Fellows -	2	4	2	8	3	1	4	2	0	2	28
Licentiates	9	5	8	7	1	5	5	2	0	1	43
Total	11	9	10	15	4	6	9	4	0	3	71

No. 3. *Diplomas granted by the College of Surgeons in Ireland during Ten Years.*

Years	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	Total
Number of Licentiates...	14	23	35	29	37	37	27	39	44	29	314

No. 4. *Licences granted by Apothecaries' Hall in Ireland, during the last Ten Years.*

Years	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	Total
Licentiates ...	44	87	92	66	52	33	34	55	50	59	572

ANATOMY OF THE OVUM, IN THE OVARY. BY THOS. WHARTON JONES, ESQ.

[THE following is a brief abstract of a paper read before the Royal Society, 18th June, 1835. Although preceded by M. Coste, whose memoir was reported on to the Royal Academy of Sciences, 5th May, 1834, we have reason to believe the enquiries of Mr. Jones to be perfectly original, and regret they have not appeared in the second part of the Philosophical Transactions for 1835, just published.]

§ 1. The human ovary, like that of the mammalia generally, consists of a parenchymatous substance, enclosed within a fibrous tunic called *tunica albuginea*, and covered by peritoneum. The vesicles of De Graaf are imbedded in the parenchyma, and in the human species measure, when mature, about one-fifth of an inch in diameter.

§ 2. The proper capsule, or *theca* of the Graafian vesicle, is composed of two layers; the *outer* of which is thin, dense, and vascular; the *inner* thicker, softer, and more opaque. It is the latter which, after impregnation, forms the *corpus luteum*.

§ 3. The contents of the Graafian vesicle consist of the following parts:

1st. A granular* membrane.

2d. Inclosed within the granular membrane, a coagulable granular fluid, forming by far the greater part of the contents of the vesicle.

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* By the term *granular*, applied to a membrane, is meant that, under the microscope, it breaks up into granules, previously kept together by a mucus-like substance.

3d. Connected with the granular membrane, and sustained by the fluid just mentioned, a circular mass or disc, termed by Baer the *proligerous*[*] *disc*, which, at its centre and on its exterior surface, is hollowed out into a cuplike cavity.

4th. The *ovum*, properly so called, held within the cavity of the proligerous disc.

§ 4. The ovum, as it existed in the ovary, was first observed, in the bitch, by Professor Baer, of Koningsberg, in 1827. The human ovum is so small as to be only just perceptible to the naked eye, being $\frac{1}{150}$th of an inch in diameter: it possesses a soft transparent capsule of considerable thickness, lined by a granular membrane, the granules of which adhere together by the intervention of a delicate mucus-like substance, and contains, besides the vesicle of Purkinje, presently to be noticed, an albuminous-like fluid.

§ 5. Imbedded in the granular membrane of the human ovum, Mr. T. Wharton Jones has discovered[†] with the microscope a delicate transparent vesicle, about $\frac{1}{900}$th of an inch in diameter. The same vesicle has been seen in the ovum of the rabbit, by M. Coste. Mr. Jones describes it as having on one side a small elevation, which, projecting among the granules of the granular membrane of the ovum, fixes it in its place. He considers this vesicle as analogous to that described by Professor Purkinje[‡] in the cicatricula of the immature eggs of birds, and which exists also in the ova of other oviparous animals. Mr. Jones has examined the ova of the cow, sheep, sow, rabbit, rat, and mouse, and has found in all these animals a similar vesicle.

§ 6. At impregnation, the granular membrane and capsule of the Graafian vesicle burst, as well as the tunica albuginea and peritoneal covering of the ovary, and the ovum (§ 4) escapes into the Fallopian tube. After this event, the vesicle discovered by Mr. Jones and Mr. Coste is no longer to be found in the ovum; a fact analogous to the observation of Purkinje, that the vesicle described by him has completely disappeared by the time when the bird's egg enters the oviduct.

§ 7. Although there is, at first sight, a considerable resemblance between the contents of the Graafian vesicle and the immature yelk of the egg of a bird, Mr. Jones thinks, contrary to the opinion of Baer, that there is no real analogy between them; because, in the Graafian vesicle of the mammalia, there is no membrane surrounding its contents, similar to the vitallary membrane of the ovum in birds; nor does the latter membrane appear first under the form of a granular membrane. Neither can the vesicle of Purkinje be considered the analogue of the ovum. The vesicle of Purkinje consists merely of a delicate capsule containing a fluid; while, in the ovum of the mammalia, there are found all the essential elements of the egg of birds and other ovipara, namely, an external membrane, analogous to the vitallary membrane, but performing a different function; a granular membrane, containing a thin fluid, corresponding to the immature yelk of a bird's egg; and a vesicle in every respect analogous to that which Purkinje found in the hen's egg, while still lodged in the ovary. Mr. Jones considers the granular membrane, proligerous disc, and granular fluid of the Graafian vesicle, as parts which are superadded, and of which there is no trace within the capsule of the ovary of a bird.

OBITUARY.

SIR DAVID BARRY, M.D.

In our last number we announced the sudden and premature death of this amiable and estimable physician: we now add a few particulars of his life, omitted for want of room.

Sir David Barry was born on the 12th March, 1780, in the county of Ros common, in Ireland. We believe his parents were persons of great respectability, but in no elevated station in life. They, however, gave their son the most valuable of endowments, next to that of a sound physical constitution, a good education; and he was early distinguished both for his classical and mathematical attainments. Originally destined for another profession, at the commencement of the French war he turned his attention to medicine, and prepared himself for the public service, at that time the ready recipient of the aspiring and active youth of the country. Barry entered the medical department of the army as assistant-surgeon of the 87th regiment, on the 6th March, 1806. After three years' service in this capacity, he resigned his medical appointment, and took an ensign's commission in the same regiment, then serving in Portugal. He, however, did not long continue in his more warlike position, but returned to the medical service of the army, being appointed assistant-surgeon of the 58th Foot, on the 1st Feb. 1810. In this situation he had the good fortune to give important surgical aid to field-marshal Beresford, when wounded in the battle of Salamanca, and who ever after warmly espoused his interests. He was appointed surgeon to the Portuguese forces on the 25th March, 1813, and staff-surgeon in the British army on the 25th September, 1814. At the close of the war, Mr. Barry was nominated staff-surgeon of the district of Braganza, in Portugal, and resided for some years in this capacity at Oporto, where he married Miss Whately, sister of the present archbishop of Dublin. On the breaking out of the revolution in Portugal, in 1820, he returned to England; and, shortly afterwards, received the degree of M.D. from one of the Scottish universities, and became an extra licentiate of the London College of Physicians.

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[*] *Proligerous*, from *proles*, progeny, and *gero*, carry.

[†] Récherches sur la Génération des Mammifères. Paris, 1834.

[‡] Symbolée ad Ovi Avium Historiam ante Incubationem. Lipsiæ, 1830.—Purkinje first described the vesicle which bears his name in 1825.

Dr. Barry proceeded to Paris in 1822, and devoted himself at once to the study and practice of his profession. In this capital he remained four years; and having qualified himself by the necessary attendance at the schools, took the degree of M.D. at the university, in 1827. It was in Paris that Dr. Barry made his various original and highly important experiments on the circulation of the blood in the veins, and the bearing of this on the function of absorption, and on the treatment of poisoning by external wounds. The result of these enquiries he submitted in the first instance to the Royal Institute of France, and to the Royal Academy of Medicine in Paris; and then published them in a separate form in London, in 1826, under the title of "Experimental Researches on the Influence exercised by Atmospheric Pressure upon the Progression of the Blood in the Veins, upon the function called Absorption, and upon the Prevention and Cure of the Symptoms caused by the Bites of Rabid or Venomous Animals." The great importance of this work was immediately recognized by the members of the profession, both in France and England; and, although some of the author's positions have been controverted, and some disproved, it will always remain a valuable addition to physiological science.

In 1826 Dr. Barry returned once more to England, and commenced practice in London; but his reputation and his connexion with the army did not permit him to remain long stationary. In 1828 he was sent to Gibraltar, in an official capacity, and with an especial view towards investigating the nature of the yellow fever, then prevalent in that garrison. He was promoted to the rank of physician to the forces on the 5th Nov. 1829; and returned with this rank to London, in 1830. Dr. Barry published various documents in the journals, particularly in the Medical and Physical Journal, on the subject of the fever; and, among others, a Letter to Sir James M'Grigor, "On the Sanitary Management of the Gibraltar Fever," which contains many valuable hygienic regulations for the prevention and suppression of this fatal epidemic. In the following year, in June, he was sent, in conjunction with Dr. William Russel, to St. Petersburg, with the view of investigating the nature of the cholera, then raging there, and spreading alarm through every other country. On his return from this mission, he was made deputy inspector general of hospitals, on the 16th Dec. of the same year. When the cholera appeared in England, Dr. Barry was much employed in its investigation by government; and, in conjunction with Dr. now Sir William Russel, constituted, for a time, the medical part of the official board for its supervision. In this capacity, as also in that of commissioner to Russia, he published various memoirs on the nature and mode of preventing the cholera, which were very creditable to his penetration and industry, and proved useful at the time. For his services in this department he received the honour of knighthood from the king, having been previously invested with the dignities of knight of the order of the Tower and Sword of Portugal, and of St. Anne of Russia.

In the year 1833, Sir David Barry was appointed one of the commissioners for enquiring into the health of children employed in the British factories; and in 1834 he was nominated to the Irish commission for investigating the state of the poor, and of the medical charities in Ireland. He had only recently returned from this last enquiry, and was still busily occupied in collecting and preparing his voluminous and valuable documents on this most important department of statistics, when he was suddenly cut off in the flower of his useful and active life, on the 4th of November, 1836. The cause of his death was the rupture of an aneurism of the aorta, with which he must have been long affected, although its presence had scarcely been indicated by symptoms, and certainly was never suspected either by himself or any of his medical friends.

Sir David Barry was an honorable and honored member of the profession. He was a man of much information, both general and professional; an extremely agreeable companion, and highly popular among his brethren.

WILLIAM TWINING, ESQ.

First Assistant Surgeon of the General Hospital, Calcutta.

IN the premature death of this gentleman also, which took place on the 25th of August last, at Calcutta, we have to deplore an irreparable loss to our profession, more especially in the department of Oriental medicine. Fortunately for the science of which he was so zealous and successful a cultivator, he lived long enough to bring to comparative perfection the work in which he has embodied the results of his observation and experience in the pathology and treatment of the diseases of India. His "Clinical Illustrations of the more important Diseases of Bengal, with the result of an Inquiry into their Pathology and Treatment," published shortly before his death, in a second edition, in two volumes octavo, greatly enlarged and improved, will for ever remain a monument of his industry and sound pathological and practical knowledge; and will be long the faithful guide of the practitioner in India, until experience has unfolded to him the peculiarities of the diseases of that country. We hope to give a review of this valuable work in our next number, the first edition of which appeared in 1832.

Mr. William Twining appears to have been born in the British colony of Nova Scotia: it is at least certain that he passed his early years there, having served his apprenticeship to Dr. John Halliburton, a practitioner of Halifax, in that country. Having completed his education in London, and obtained the diploma of the College of Surgeons, he entered into the medical department of the army, on the 6th February, 1812. After being employed for some time at the military hospital at Hilsea, he proceeded to the Peninsula, where he served a short time, and again returned to Hilsea, where he remained until May, 1815, when he joined the British army in the Netherlands. He remained attached to the Army of Occupation until it returned from France, in December, 1818. Mr. Twining remained in England for three years, doing duty at Chatham, Maidstone, and the Isle of Wight, until September, 1821, when he embarked for Ceylon. He remained in Ceylon for a considerable time, and left the island to accompany His Excellency, Sir Edward Paget, to India. He was placed on the half-pay of the army at his own request, on the 25th Dec. 1823, and finally resigned his commission in the British service, by accepting a commutation allowance on the 7th Dec. 1830.

Mr. Twining, on retiring from the active service of the army, entered into private practice in Calcutta, where he was greatly esteemed. As one of the principal surgeons of the civil hospital, he had great opportunities of prosecuting his pathological and practical researches; and as secretary, and one of the most active members of the Medical Society of Calcutta, he had the means of extending his knowledge and the influence of his example throughout the profession in India. He was the author of many valuable papers in the Transactions of this excellent Association.

JOHN CHEYNE, M.D., F.R.S., M.R.I.A.

Physician-General to the Forces in Ireland, &c. &c.

IT is with sincere regret we have to record, in this early stage of our labours. the premature death of this very eminent person, at the age of 57. Dr. Cheyne was justly regarded by the whole medical profession in this country as one of the most distinguished and estimable of its members, whether viewed in his professional, literary, or private character. He was the author of numerous works on practical subjects of great value, of which the following are the chief: 1. SEPARATE PUBLICATIONS: Disputatio de Rhachitide (Thesis), *Edin.* 1795; Essays on the Diseases of Children, with cases and dissections,—1. on Croup, 2. on Bowel Complaints, particularly the Atrophia Ablactatorum, *Edin.* 1801; an Essay on Hydrocephalus Acutus, or Dropsy in the brain, *Edin.* 1808; the Pathology of the Membrane of the Larynx and Bronchia, *Lond.* 1809; Cases of Apoplexy and Lethargy, with observations upon the comatose diseases. *Lond.* 1812; a second Essay on Hydrocephalus Acutus, *Dubl.* 1815; Essays on Hydrocephalus Acutus, or Water in the Brain, second edition (improved), *Dubl.* 1809; an account of the Fever lately epidemic in Ireland (in conjunction with Dr. F. Barker), two vols. *Dubl.* 1821.—II. EDINBURGH MEDICAL JOURNAL: Observations on the Effects of Purgatives, iv. 310, 1808; Case of Bronchial Polypus, with introductory observations, iv. 441, 1808.—III. DUBLIN HOSPITAL REPORTS: Vol. i. 1818: Report of the Hardwicke Fever Hospital for the year ending on the 31st March, 1817; a case of Melæna, with observations on the alternate excess of morbid action in the mucous and serous membranes; on the virtues of James's Powder in the Apoplectic Diathesis. Vol. ii. 1818: Report of the Hardwick Fever Hospital for the year ending on the 31st March, 1818, including a brief account of an epidemic Fever in Dublin; Case of Apoplexy in which the fleshy part of the heart was converted into fat. Vol. iii. 1822: Report of the Whitworth Hospital, containing an account of Dysentery as it appeared in Dublin in the latter end of 1818, with a brief account of the disease as it appeared in Limerick in 1821. Vol. iv. 1827: Medical Report on the feigned Diseases of Soldiers; Cases of a fatal Erethism of the Stomach. Vol. v. 1830: Small and frequently repeated Bleedings in Hæmoptysis and Incipient Phthisis, recommended, &c.—IV. CYCLOPÆDIA OF PRACTICAL MEDICINE: vol. i. 1832, Croup; vol. ii. 1832, Epilepsy, Epidemic Gastric Fever; vol. iii. 1833, Laryngitis; vol. iv. 1834, Wakefulness.

For the following few particulars of the life and character of Dr. Cheyne, we are indebted to the pages of two of our contemporaries; and as they are at once creditable to them and suited to our purpose, we make no apology for extracting them.

" Dr. J. Cheyne was born on the 3d of February, 1777. He was originally of Leith. After having been some years Surgeon in the Artillery Corps, he returned to Leith, where he obtained considerable practice. In 1795 he took the degree of M.D. at Edinburgh. Having married an Irish lady he was induced, about the year 1809, to settle in Dublin, where he obtained the appointment of Professor of Medicine, and became Physician to the Meath Hospital. The confidence of the profession in his experience and excellent judgment, with his delicate and honorable conduct, drew him into the highest and most extensive practice, and obliged him to resign his public duties, except those belonging to the important post of Physician-General, to which he was appointed in the year

1820. For many years his professional receipts were very large; but his health broke under the fatigue. When in a state of great debility, a domestic calamity occurred, which seemed quite to overwhelm him: one of his sons was accidentally shot while on an excursion in the country, and unfortunately, as Dr. Cheyne hurried from town to his assistance, the postilion rode over and killed a child. These distressing circumstances, we have reason to believe, hastened his retirement from Dublin; his departure from which metropolis drew forth public expressions of regret from all the medical bodies. He brought his family with him to England, and bought a property in Buckinghamshire, where he lived in retirement during the last few years. He died, after an illness of some months, on the 31st of January, 1836."—*Med. Gazette, No.* 430.

"No man ever maintained, in the circle in which he practised, more respect and confidence from his professional brethren, or a higher character with the public as a skilful physician. In consultation, he displayed a penetration in the diagnosis of disease, and a readiness and sincerity in the communication of his experience in similar cases, which never failed to secure the confidence of the practitioner at whose recommendation he had been called to the attendance. He had, moreover, the enviable quality of observing the most honorable conduct toward the gentleman in attendance with him, without a compromise of the duty which he owed to the invalid: he directed the treatment, without arrogating to himself any merit for its success; and assisted the efforts of his junior, without lessening towards him the confidence of his patient. Dr. Cheyne's punctuality to appointments was another feature in his character which rendered professional intercourse with him peculiarly satisfactory; and even in the days of his most varied and extensive practice, he treated the youngest member of the profession with the same polite consideration in this particular as the oldest. Such was the estimation in which he was held, and such the universal regret at his retirement from practice, that addresses were presented to him from three different branches of the profession requesting him to return and resume his station amongst them; a compliment to an individual unprecedented in the annals of medicine."—*Dublin Journal, No.* 25.

DR. MARSDEN.

We observe the announcement of the recent death of Dr. Marsden, of Nottingham, at an advanced age.

LIST OF ORIGINAL PAPERS PUBLISHED IN THE BRITISH JOURNALS DURING THE LAST QUARTER.

THE EDINBURGH MEDICAL AND SURGICAL JOURNAL.

No. 126, *Jan.* 7, 1836.

1. Clinical Report (of the Edinburgh Infirmary) for the Summer Session of 1835. By James Syme, Professor of Clinical Surgery, &c.
2. Account of a Varioloid Epidemic in Watson's Hospital in the Summer of 1835, with Remarks on the Antivariolous powers of Vaccination. By J. Bell, Esq.
3. Dissection of a Blighted Ovum, with Remarks. By William Mackenzie, M.D.
4. On Dysentery, as it Epidemically prevailed at Boston in the autumn of 1831. By James Black, M.D.
5. Observations on Continued Fever, as it occurs in the Hospitals of Glasgow. By Robert Perry, M.D.
6. Notice of some Experiments on the Vital Properties of Arteries leading to inflamed parts, and on the immediate Cause of Death by Asphyxia. By W. P. Alison, M.D.
7. On Obstructions in the soft parts to the progress of Labour. By J. T. Ingleby.

THE DUBLIN MEDICAL JOURNAL.

No. 24, *Jan.* 1836.

1. On the Infra-Orbital Cavities in Deers and Antelopes. By Arthur Jacob, M.D.
2. Cases of Malignant Diphtheritis: with Remarks. By Edward Bewley.
3. Observations on Diffuse Cellular Inflammation, with some Remarks on Contagion. By Charles Lendrick, M.D.
4. An Essay on Laceration of the Uterus and Vagina. By J. T. Ingleby.

5. A Parallel between the Flexed and Extended Postures in the Treatment of Fractures of the Lower Extremities. By John Horston, M.D.

6. On Tympanitis occurring in Fever. By R. J. Graves, M.D.

No. 25, March.

7. On a peculiar Affection of the Nerves of the Teeth. By R. J. Graves, M.D. King's Professor of the Institutes of Medicine.

8. Practical Observations on some of the most common Causes of tedious Labour. By Robert Little, M.D.

9. Researches on Laennec's Vesicular Emphysema, with Observations on Paralysis of the Intercostal Muscles and Diaphragm, considered as a new Source of Diagnosis. By William Stokes, M.D. M.R.S.A. &c.

10. Observations on the Effects of Cold on the Human Body, and on a Mode of measuring Refrigeration. By Jonathan Osborne, M.D.

11. On Fistula Lachrymalis, in which a new Method of Operating is proposed; and on Injuries of the Eye from Lime and Foreign Bodies. By Arthur Jacob, M.D. M.R.S.A.

12. Observations on Trismus Nascentium. By Robert Collins, M.D.

13. Account of a Case in which Death ensued in consequence of Nitric Acid having been poured into the Ear, with a second Case in which the Epiglottis was divided in an attempt to commit Suicide. By J. Morrisson, M.D.

14. Pathological Observations on the Brain and Nervous System. By Robert Law, M.B.

15. On Puerperal Fever. In a Letter to the Editors. By Samuel Caswell, M.D.

THE LANCET.

No. 642, Dec. 19, 1835.

1. Cases of Diseases of the Heart, elucidating certain difficulties of Diagnosis. By John Fosbooke, M.D.

2. On the Treatment of Pulmonary Consumption by the inunction of lard. By E. A. Spilsbury, Esq.

No. 643, Dec. 26.

3. Case of Fracture of the Fibia, with Remarks on a Leg-trough. By H. C. Sherwin, Esq.

4. Cases of Bronchial Irritation mistaken for Croup; with Remarks on the external application of Croton Oil in Cynanche Trachealis, and on the comparative freedom of Children at the Breast from Epidemics. By James Inglis, M.D.

5. On the Injection of the Nitrate of Silver for the cure of Vaginal Discharges. By George Jewell, M.D.

6. Remarks on the Report of the Dublin Committee on the Sounds and Motions of the Heart. By E. L. Bryan, Esq.

No. 644, Jan. 2, 1836.

7. Case of presumed Mechanical Obstruction to the Passage of Blood in the Arteries, with Remarks. By E. Crisp, Esq.

8. Case of Coxalgia producing fatal Peritonitis, with Remarks. By William Tagert, Esq.

9. On Mineral Magnetism. By R. Davidson, Esq.

No. 645, Jan. 9.

10. Case of Obstruction of the Rectum, with operation to form a new Anus. By J. Lindsay, Esq. Surgeon.

11. Case of Colica Spasmodica followed by Inflammation. By M. Gibson, Esq. Surgeon.

12. Remarks on Cancer of the Uterus. By S. Young, Esq. Surgeon.

13. Analysis of Diabetic Urine to discover its free Gases. By W. R. Clanny, M.D.

14. Medicinal Preparation of Manganese, and its employment in Epistaxis. By H. Osborne, Chemist.

15. Case of Amaurosis following the suppression of Feelings of Passion. By J. I. Stein, Esq. Surgeon.

No. 646, Jan. 16.

16. Observations on Diagnosis in Disease of the Heart.—On Palpitation, the Nervous, the Plethoric, and the Symptomatic kinds. By John Fosbroke, M.D.

17. Case and Arguments adduced to prove that the Affection called Gonorrhœal Rheumatism is produced by the use of Copaiba. By F. Eagle, Esq. Surgeon.

No. 647, Jan. 23.

18. On the Diminution in the Mortality of Infants in England; with a New View of the London Bills of Mortality for one hundred years, indicating a regularly-progressing Diminution. By T. R. Edmonds, Esq. B.A.

19. Cases of Vomiting cured with Creosote. By George Bodington, Esq. Surgeon.

20. Case of Fungus Medullaris in the Cavity of the Pelvis. By Julius Wolff, M.D.

21. Case of Modified Epilepsy, exhibiting a singular anomaly of the Pulse. By John Furlonge, M.D.

22. On Resuscitation from Drowning. By George Wooley, Esq. Surgeon.

23. Case of Fatal Strangulated Inguinal Hernia. By W. G. Gowing, Esq. Surgeon.

24. On Copaibal Rheumatism. By W. B. Maddock, Esq. Surgeon.

No. 649, Feb. 6.

25. Case of Small-Pox complicated with Hysteria. With Remarks on Epidemic Small-Pox at Lisburn. By John J. Kelso, M.D.

26. On Attacks of Rheumatism following Gonorrhœa. By J. B. Samuel.

27. On the Principle of Remuneration in Contracts for the Supply of Medical Aid to the Sick-Poor. By W. Fergusson, M.D.

28. Letter from Mr. Rumsey, of Chesham, respecting Measures for Altering the Poor-Law Amendment Act.

No. 651, Feb. 20.

29. Case of Gouty or Sodaic Concretions deposited in the Hands, Feet, Knee, Elbow, Nose, Cheeks, and Gums. By T. H. Barker, Esq.

30. Detection of Petroleum in the Blood. By Mr. Osborne, Chemist.

31. Remarks on the Use and Abuse of Brown Bread. By C. Wright, Esq.

32. On the Hunterian Theory of the Contamination, Disposition, and Action of the Poison of Syphilis. By F. Eagle, Esq. Surgeon.

33. Report from the Small-Pox Hospital. By George Gregory, M.D.

No. 652, Feb. 27.

34. Case of Aneurysmal Tumour in the Orbit, following Injury of the Head, and treated by Ligature of the Common Carotid. By George Busk, Esq. Surgeon.

35. Case of Severe Hemorrhage from the Mouth, of Hereditary Origin. By Julius Wolff, M.D.

36. Remarks on Mr. Osborn's Analysis of the Blood.

37. Remarks "On Dr. William's Reclamation relative to Dr. Hope's late Exposition of the Sounds of the Heart." By E. L. Bryan, Esq.

No. 653, March 5.

38. Case of Aphonia successfully treated by perseverance with Tonics and Blistering. By James Inglis, M.D.

No. 654, March 12.

39. On the Existence of Nervous Induction in functional Processes. By W. F. Bow, M.D.

40. On the Absurdities and the Merits of the Doctrines of Hahnemann. By Charles Schmidt, M.D.

41. On Ligatures in Hemorrhage. By John M. Neligan.

THE LONDON MEDICAL GAZETTE.

No. 420, Dec. 19, 1835.

1. On the Defects and Results of English Parish Registers; and the comparative influence of domestic manufacture or factory labour on Female Mortality. By John Rickman, Esq.

2. On the Sources of the Vital Powers, and the relations they bear to each other. By A. P. W. Philip, M.D.

3. Question whether Vitality is either imparted or sustained by Galvanism. By J. W. Earle, Esq.

4. Observations on Arterial power in Health and Disease, particularly in Inflammation. By J. Slade, M.D.

No. 421, Dec. 26.

5. On the Functions of Taste and common Sensation in the Tongue. By Daniel Noble, Esq.

No. 422, Jan. 2, 1836.

6. Observations on the Venereal Practice of Berlin. By Alexander Ure, M.D. M.R.C.S.

7. On Electricity and Dr. Philip's Views of the Nervous Influence. By C. J. B. Williams, M.D. F.R.S. &c.

8. Miscellaneous Practical Cases. By P. M. Lyons, M.B. A.M.

Case of Malposition of the Heart, &c. with Imperforate Vagina.

Case of excessive Quantity of Opium being taken without fatal Results.

Case of General Dropsy, complicated with Enteritis.

Case of Sudden Death nineteen days after Uterine Hæmorrhage.

Case of Galactorrhœa.

9. Report of Fractures treated in the London Hospital during November. By John Adams, Esq.

10. Defence of Dr. Elliotson's employment of Iodine, and other Remedies. By W. Munk, Esq.

11. Does Iodine cause Salivation? By Jas. H. Horne, Esq.

No. 423, Jan. 9.

12. Case of Anomalous Condition of the Large Intestine and other Viscera, in a Child. By Dr. Theophilus Thompson.

13. On the Causes of Prolapse of the Funis in Labour. By John Roberton, Esq.

14. On the "Bruit de Soufflet," or Bellows Sound, in Auscultation. By Dr. Chas. Cowan.

15. Efficacy of the Chloride of Zinc in the Treatment of Malignant Ulcer. By Alex. Ure, Esq.

16. Electricity and the Nervous Influence.—A final Reply to Dr. Williams. By Dr. Wilson Philip, F.R.S.

No. 425, Jan. 23.

17. Death of an Infant from the Inhalation of Hot Turf Ashes. By G. Bury, Esq.

18. On the Average Duration and the Probability of Life, as ascertained in the several Counties of England. By John Rickman, Esq.

Tabular View of the Coincidence of the *Vie moyenne* and *Vie probable*, in relation to increase of Population.

Remarks on certain Belgian, Swiss, and Genevese Returns.

19. Second Report of Cases treated in St. George's Hospital, (being from July 1, 1835, to Jan. 1, 1836,) with "Rough Leaves" from his Case-Book. By R. Macleod, M.D.

Case in which the Semilunar Valves were perforated.

Additional Note regarding Kreosote.

Bleeding in Acute Rheumatism.

Cases of Acute Rheumatism.

Hydryodate of Potass in certain forms of Chronic Rheumatism.

Note on the rate of Mortality in St. George's Hospital.

20. Case of Fatal Hæmorrhage from Lancing the Gums. By R. T. Taynton, Esq.

21. Fatal Constipation caused by a knot of Teniæ. By J. Parkinson, Esq.

No. 426, *Jan.* 30.

22. Remarks on Partial Amputations of the Foot and Hand; with Cases. By John Macfarlane, M.D. Senior Surgeon to the Glasgow Royal Infirmary, &c.

No. 427, *Feb.* 6.

23. Observations on the Venereal Practice of Berlin. By Alexander Ure, M.D. M.R.C.S.

24. Ophthalmic Surgery.—Treatment of Eversion of the Eyelids, and of Hare's Eye. By William Brown, M.D. Lecturer on Operative Surgery of the Eye, Glasgow.

25. Some Remarks on the Modification of the Senses. By John Bishop, Esq.

26. Letter on the Blind. By Monsieur A. Rodenbeck, Member of the Chamber of Deputies, Brussels.

27. On the Causes and Treatment of Prolapse of the Funis in Labour. By R. T. Hunt, one of the Surgeons to the Manchester Lying-in Hospital.

28. Statistics and Mortality of Hospitals. By William Farr, Esq.

29. A concise Summary of the Facts relating to the Nature of the Nervous Influence. By A. P. W. Philip, M.D. F.R.S. &c.

30. Anomalous Case of Lithotomy. By Professor Lizars.

No. 428, *Feb.* 13.

31. Letter on the Blind. By Monsieur A. Rodenbach, Member of the Chamber of Deputies, Brussels.

32. An Account of some of the most celebrated Medical Institutions in Germany. Communicated, in a Letter from Munich, by Edwin Lee, Esq.

33. On the Use of Veratrine in the Treatment of Chronic Glandular Enlargements. By Dr. A. Turnbull.

34. An Account of Two Cases in which the Parasite of Human Muscles — the *Trichina Spiralis*—was lately found. By T. Blizard Curling, Esq.

No. 429, *Feb.* 420.

35. Observations on Urinary Deposits. By R. H. Brett, Esq. M.R.C.S.

36. On the Complicated Forms of Venereal Diseases. By D. H. Walne, Esq.

37. Observations on the Venereal Practice of Berlin. By Alexander Ure, M.D. M.R.C.S.

38. On the Pathology of Ramollissement of the Brain. By John Gay, Esq. M.R.C.S.

39. On the Doses of Medicine; with Remarks on the Homœopathic Method of Practice. By Dr. Leonard Stewart.

40. On the Treatment of Hydrocele by Seton. By Dr. Holbrook.

41. Remarkable Case of Hydrophobia; with an Account of the Morbid Appearances on Dissection. By Frederick Pritchard, Esq.

42. Vaccination during Lactation contra-indicated; with illustrative Cases. By John Grantham, Esq.

43. On the Use of the Terms Common, Modified, and Specific Sensation; particularly with reference to the Sense of Taste. By Daniel Noble, Esq.

No. 430, *Feb.* 27.

44. Observations on Urinary Deposits. By R. H. Brett, Esq.

45. Case of Aneurismal Tumour in the Orbit, for which the Common Carotid Artery was tied. By George Busk, Esq. Surgeon.

46. Remarkable Case of Rupture of the Uterus, followed by complete Recovery. By John Stuart Currie, Esq.

47. Observations on the Deaths of some Eminent Philosophers of Modern Times. Delivered at the Royal College of Physicians, by Sir H. Halford, Bart.

No. 431, *March* 5.

48. Illustrations of the Physical Diagnosis of Diseases of the Valves of the Heart. By C. J. B. Williams, M.D. F.R.S.

49. Observations on Urinary Deposits. By R. H. Brett, Esq. M.R.C.S.

50. Case in which Death ensued in consequence of Nitric Acid poured into the Ear; also a Case in which the Epiglottis was divided, in an Attempt at Suicide. By J. Morrisson, M.D.

51. Sugar obtained from the Blood of a Patient, in Diabetes. By Charles Maitland, Esq.

No. 654, *March* 12.

52. Observations on Urinary Deposits. By R. H. Brett, Esq. M.R.C.S.

53. On secondary Uterine Hæmorrhage. By John Robertson, Surgeon.

54. Statistics of the Marylebone Infirmary for 1835; with Observations. By John Clendinning, A.M. M.D.

55. Case of Injury of the Spine. By Alexander Shaw, Esq.

56. On the Pathology of Hydrocephalus; with Cases. By Daniel Noble, Esq.

57. Case of fatal Hæmatemesis. By Robert H. Temple, Esq.

58. Plan of rendering the Registration of Deaths efficient for medical and statistical Purposes. By Henry Belinaye, Esq.

59. Tic Douloureux a *symptomatic* Disease. By R. M. Kerrison, Esq.

THE LONDON MEDICAL AND SURGICAL JOURNAL.

No. 203, *Dec.* 19, 1835.

1. Remarks on Erysipelas. By John Langley, Esq.

No. 205, *Jan.* 2, 1836.

2. An Explanation of the Action of Tartarized Antimony, on Physiological Principles. By J. W. Moses, M.R.C.S.

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3. Case of Sudden Death, with Appearance on Dissection. By Henry Hargreaves, M.R.C.S.

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4. Practical Remarks on Rupture of the Uterus. By Dr. Blicke.

5. Case of Purpura Hæmorrhagica. By H. Hargreaves, M.R.C.S.

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6. Is Medicine an Empirical or Theoretical Science? and how far ought Pathology to regulate Practice? By Dr. Uwins.

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1. Extracts from a Prize Essay on Iodine. By James Inglis, M.D.

2. Description of a Thermometer for determining minute differences of Temperature. By Marshall Hall, M.D. F.R.S.

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3. On the Anatomical and Optical Structure of the Crystalline Lenses of Animals. By Sir D. Brewster.

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1. Report respecting the Statistical Researches of Dr. Civiale on Calculous Affections made to the Académie des Sciences, Oct. 5, 1835.

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1. Description of a Microscopic Entozoon infesting the Muscles of the Human Body. By Richard Owen, Esq. F.R.S.

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1. New and complete Manual of Auscultation and Percussion, applied to the Diagnosis of Diseases. By M. A. Raciborski. M.D. Translated by W. Fitzherbert, B.A. London, 1835. 12mo. 5s.

2. A Manual of Aphorisms in Chemistry and Toxicology. By R. Venables, A.M. M.B. Oxon. London, 1834. 12mo. 7s.

3. A Practical Treatise on Midwifery, containing the result of 16,654 births, occurring in the Dublin Lying-in Hospital during a period of seven years. By R. Collins, M.D. late Master of the Institution. London, 1835. 8vo. 12s. 6d.

4. On Perforation and Division of permanent Stricture of the Urethra by the Lancetted Stiletes; with Observations on the Nature and Treatment of Spasmodic and Inflammatory Stricture and on various Urethral Affections. By R. A. Stafford, Surgeon to the St. Marylebone Infirmary. 3d edition, 8vo. London, 1836. 9s.

5. Illustrations of the Comparative Anatomy of the Nervous System. By Joseph Swan. Part I. 4to. pp. 27, seven plates, 10s. 6d.

6. Illustrations of the Botany and other Branches of the Natural History of the Himalayan Mountains and of the Flora of Cashmere. By J. Forbes Royle, Esq.

F.R.S. &c. Part VIII. folio, 10 plates. London, 1835. 20s.

7. A Treatise on the Diseases of the Eye and its appendages. By Richard Middlemore, M.R.C.S. Surgeon to the Birmingham Eye Infirmary, &c. 2 vols. 8vo. pp. 800-840. London, 1835. 1l. 15s.

8. Remarks on the Unity of the Body as illustrated by some of the more striking phenomena of Sympathy, both Mental and Corporeal, with a view of enlarging the grounds and improving the application of the Constitutional Treatment of Local Diseases. By George Macilwain, Member of the Royal College of Surgeons, &c. 1836, pp. 294, 8vo. 6s.

9. Rudiments of Physiology. By John Fletcher, M.D. Part II. *a.* and *b.* 8vo. pp. 130-146. Edin. 1836.

10. A Practical Treatise on Urethritis and Syphilis, including Observations on the power of the Menstruous Fluid and of the Discharge from Leucorrhœa and Sores, to produce Urethritis: with a variety of Examples, Experiments, Remedies, and Cures. A new Nosological Classification of the Venous Venereal Eruptions; each order illustrated by coloured plates, &c. By W. H. Judd, M.R.C.S. &c. 8vo. pp. 568, with 24 plates. London, 1836.

11. Guy's Hospital Reports. No. I. Jan. 1836. Edited by G. H. Barlow, M.A. Trin. Coll. Cam., and J. P. Babington, M.A. Trin. Coll. Cam. 8vo. pp. 188. 4 sh.

12. A Brief Memoir of Sir William Blisard, Knt. F.R.S. L. and E. &c.. By William Cooke, M.R.C.S. 8vo. pp. 67. London, 1836. 3s. 6d.

13. St. Thomas's Hospital Reports. By J. F. Smith. No. II.

14. On Insanity; its Nature, Causes, and Cure. By W. B. Neville, Esq. London, 1836, 8vo. 10s.

15. Outlines of Human Pathology. By Herbert Mayo, F.R.S. Part I. London, 1835. 8vo. 8s.

16. First Annual Report of the Poor Law Commissioners for England and Wales. London, 1835. 8vo.

17. Illustrations of the Comparative Anatomy of the Nervous System. By Joseph Swan. Part I. London, 1835. 4to. pp. 27, 7 plates, 10s. 6d.

18. New Treatment of Malignant Diseases, and Cancer, without incision. By A. M. Riofrey, M.D. London, 1836. 8vo. pp. 78, 3s.

19. A Manual of Medical Jurisprudence and State Medicine, compiled from the latest Legal and Medical works, &c. &c. By Michael Ryan, M.D. 2d edition, considerably enlarged and improved. Lond. 1836, 8vo. pp. 554, 13s.

20. An Essay on the Laryngismus Stridulus, or Croup-like Inspiration of Infants. To which are added Illustrations of the General Principles of the Pathology of the Nerves, and of the Functions and Diseases of the Par Vagum and its principal branches. By Hugh Ley, M.D. Illustrated with plates. London, 1836, 8vo. pp. 480, 15s.

21. Illustrations of the Elementary Forms of Disease. By Robert Carswell, M.D. Fasciculus ninth. *Hypertrophy*. Lond. 1836, folio.

21. Cyclopædia of Anatomy and Physiology. Part V. (Blood—Cavity.) March, 1836, 6s.

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2. Mittheilungen ueber die Cholera-Epidemie zu St. Petersburg im sommer 1831. 2 vols. 8vo. St. Petersburg, 1832.

3. De Phthisi Tuberculosa. Scripsit Alexander Blastos, Doctor Med. und Chir. Berdini, 1833. 8vo. pp. 136.

4. Nouvelles Recherches sur le Rhumatisme Aigu en général, et spécialement sur la loi de coincidence de la péricardite et de l'endocardite avec cette maladie, &c. Par J. Bouilland, Professeur de Clinique, &c. Paris, 1836. 8vo. pp. 162.

5. Medicinisch-praktische Abhandlungen, von Deutschen in Russland lebenden Aertzen. Ersten Band. Hamburg, 1836. 8vo. pp. 432.

6. Untersuchungen zur Physiologie und Pathologie. Von Dr. F. Nasse. Heft I. II. Bonn. 1835. 8vo. pp. 316.

7. Einige Bemerkungen über den einfuss der witterrung auf den menschlichen organismus uberhaupt. Von Dr. B. Becker. Parchin, 1835. 8vo. pp. 89.

8. De Suicidio, Observationibus Anatomico-Pathologicis Illustrato. Scripsit D. J. A. Arntzenius, Medicinæ et Chirurgiæ Doctor. Trajecti ad Rhenum, 1835. 8vo. pp. 204.

9. Disquisitio Physiologica *de differentia* et nexu inter nervos vitæ animalis et vitæ organicæ. Auctore J. Van Deen, M.D. Lugduni-Batavorum, 1834. *8vo. pp.* 183.

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